

SUPPLEMENT.

The Mining Journal, RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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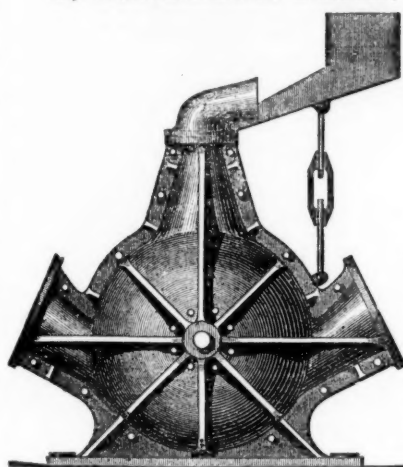
No. 2410.—VOL. LI.

LONDON, SATURDAY, OCTOBER 29, 1881.

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JORDAN'S PATENT
PULVERISING MACHINE,
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SIMPLE.
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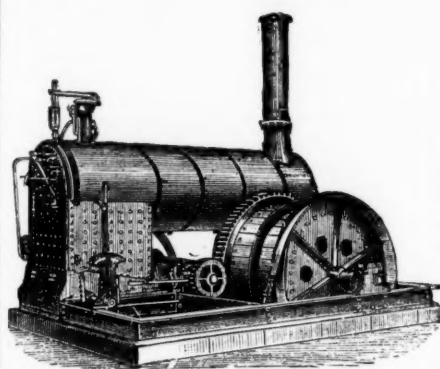
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THESE PATENT MACHINES ARE VALVELESS.

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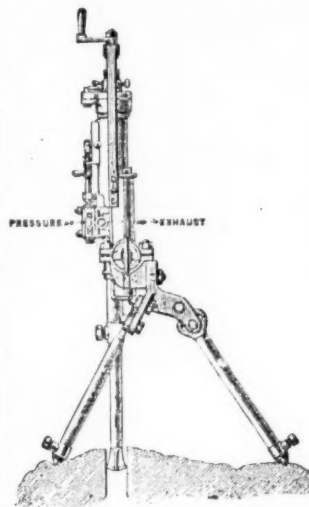
	Inches.	min. sec.
Normandy Rock Drill and Air Compressor, bored	1 1/4 x 10 1/2 in	2 10
Eclipse Rock Drill and Reliance Air Compressor	1 1/2 x 10 1/2 in	2 25
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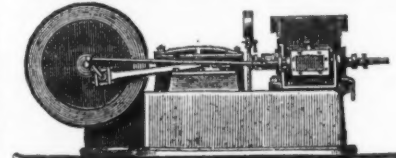
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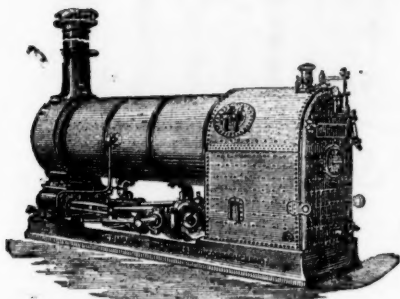
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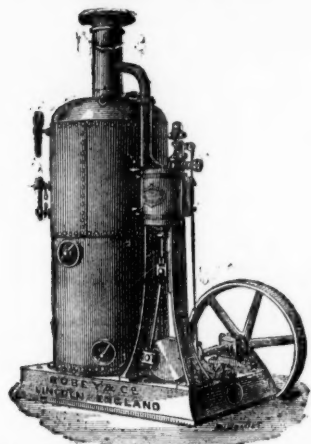
NOTICE.

TO COLLIERY PROPRIETORS, MINE OWNERS, &c.

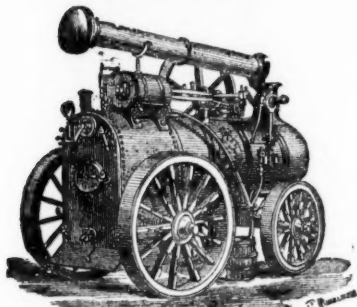
The Patent "Robey" Mining Engine



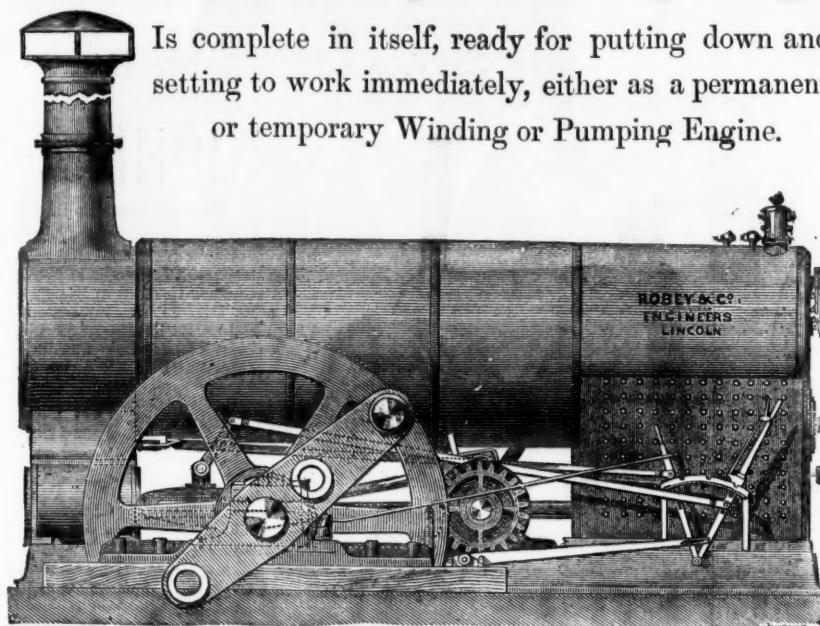
THE PATENT ROBEY FIXED ENGINE AND LOCOMOTIVE BOILER COMBINED
4 to 50-horse power.



VERTICAL STATIONARY STEAM ENGINE AND PATENT BOILER COMBINED,
1½ to 16 horse power.



SUPERIOR PORTABLE ENGINES,
4 to 50-horse power.



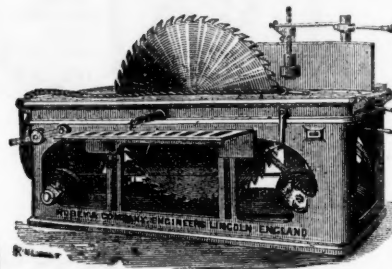
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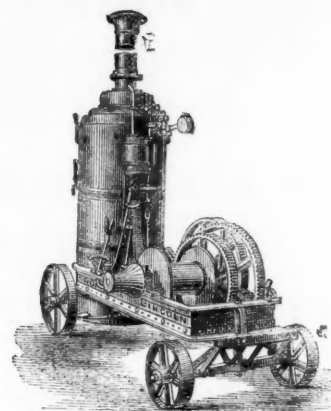
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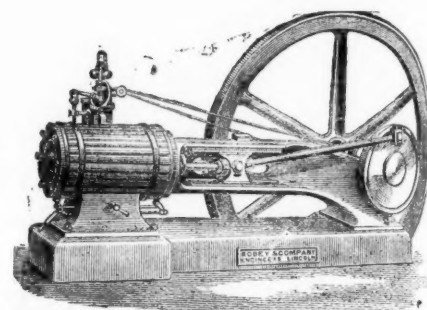
ROBEY & CO., ENGINEERS, LINCOLN.



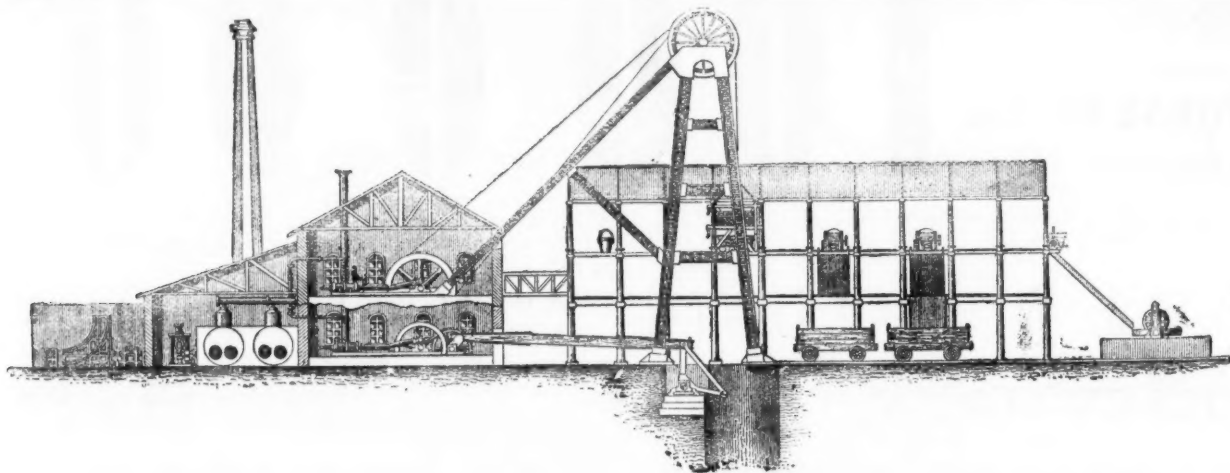
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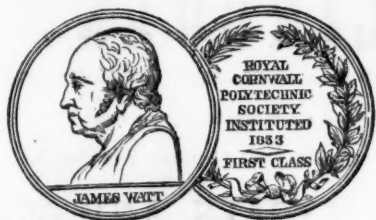
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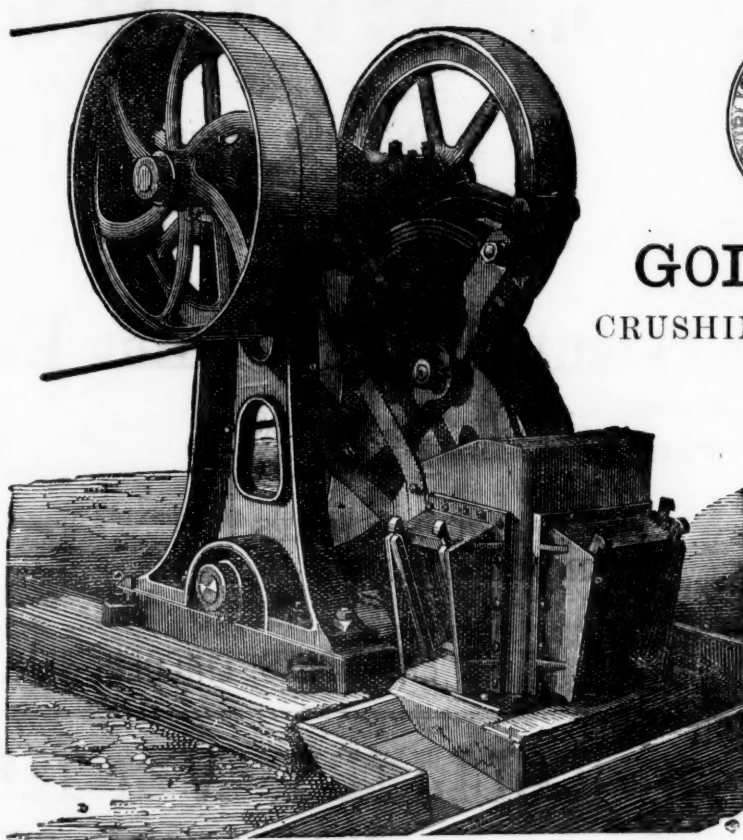
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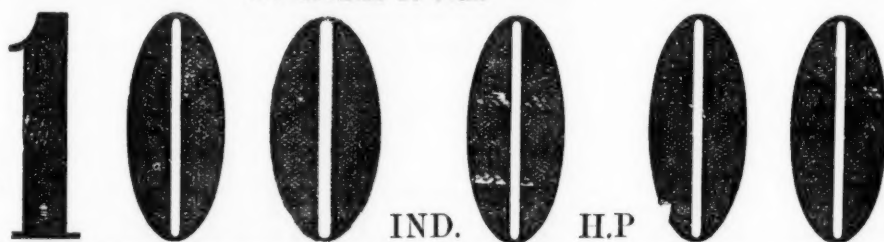
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PARIS, 1878

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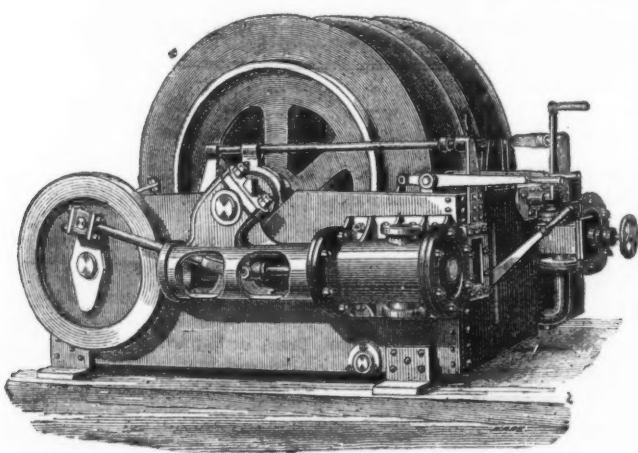
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DESIGNED FOR USING COMPRESSED AIR OR STEAM.



SIMPLE, COMPACT, PORTABLE.

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- No. 1 size, 7 in. single cylinder, with 2 ft. drums.
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 A.—6 in. double cylinder, with 2 ft. 3 in. drums
 B.—8 in. " " 3 ft. 0 in. drums.
 C.—10 in. " " 3 ft. 6 in. drums.
 D.—12 in. " " 4 ft. 6 in. drums.
 E.—14 in. " " 5 ft. 0 in. drums.

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MacADAM'S VARIABLE TURBINE.

This Wheel (which is now largely in use in England, Scotland, and Ireland) is the only one yet invented which gives proportionate power from both large and small quantities of water. It can be made for using a large winter supply, and yet work with equal efficiency through all variations of quantity down to a fifth, or even less if required. It is easily coupled to a steam-engine, and in this way always assists it by whatever amount of power the water is capable of giving, and therefore saves so much fuel.

This Turbine is applicable to all heights of fall. It works immersed in the tail-water, so that no part of the fall is lost, and the motion of the Wheel is not affected by floods or back-water.

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Terms moderate.

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Embraces the following advantages—viz.:
Implicitly, strength, and durability. Compactness and excellence of mechanical arrangements, large producing capabilities, moderate cost.
It makes two bricks at once, and will make 2,000 to 14,000 plastic pressed bricks per day, hard enough to go direct to the kiln without drying; or it will make the bricks thoroughly plastic if required. For works requiring a machine at less cost the machine is made to turn out one brick at once, and is capable of producing 8000 bricks per day.
The Machine can be seen at work daily at the Brickworks of the Patentees, JOSEPH FIRTH AND SONS, WEBSTER HILL, DEWSBURY, and CROWBURY BRICK WORKS, SUSSEX; as also their Patent Gas Kiln for Burning Bricks, which possesses the following amongst other advantages, viz.:—Economy in Fuel, Rapidity and Quality of Work, even Distribution of Heat, and Total Consumption of Smoke.

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FOR LOCOMOTIVE OR MARINE BOILERS,
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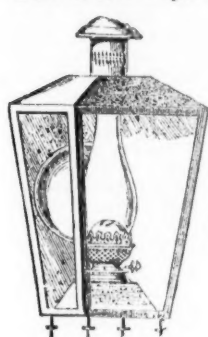
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FOR COLLIERIES, IRONWORKS, &c.,
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Each Lamp gives a light
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No breakage of Chimneys from Heat.



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LEATHER MILL BAND AND HOSE PIPE MANUFACTURERS
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Prize Medals, 1851, 1855, 1878, for
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By J. POVEY-HARPER, of Derby.

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Price bound, or loose sheets in portfolio, £2 5s.;
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"A carefully and thoughtfully executed series of working drawings of coal mining plant. The work is of the utmost possible utility to students and mine managers, and for those undertaking to open out new collieries, whether in this country or abroad, no more complete guide could be desired."—*Mining Journal*.

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It is the Book of Positive Medicine for the Cure of certain forms of Debility and Nervousness—viz.: Mental and Physical Depression, Palpitation of the Heart, Noises in the Head and Ears, Impaired Sight and Memory, Indigestion, Pains in the Back, Headache, Piles, Constipation, Hysteria, Dizziness, Local Weakness, Muscular Relaxation, Nervous Irritability, Blushing, &c., resulting from Exhaustion of Nerve power, effect of Overwork, City Life, Worry, Brain Fati Intemperance, and other abuses of the system.
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STEAM ENGINES, Portable and Fixed
(For Coals, Wood, Straw, and every description of Fuel.)

TRACTION ENGINES, &c.

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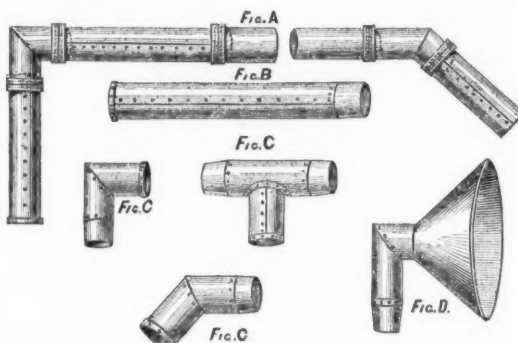
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GRINDING MILLS.

CLAYTON AND SHUTTLEWORTH,
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COLLIERY VENTILATING TUBES.

WILLIAM THOMPSON,

MANUFACTURER OF



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Fig. A.—Shows the tubes adapted for any variation in direction.
Fig. B.—Straight length of tube.
Fig. C.—Different angle bends.
Fig. D.—Is a hopper to receive air at top of shaft.

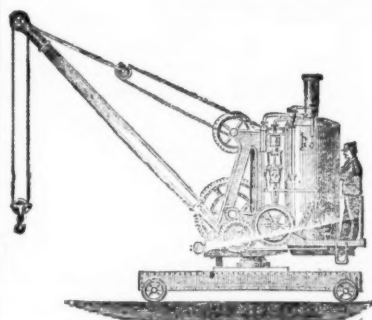
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Ash Barrow Bodies,
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Collieries, Tanks,
Kibbles for Copper
Mines, &c. General
Sheet Iron Worker.



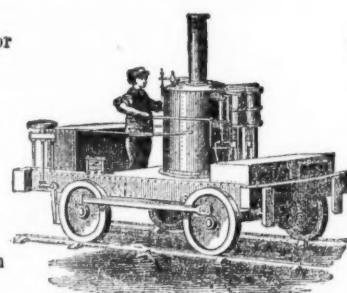
CHAPLINS' PATENT STEAM ENGINES AND BOILERS.

PRIZE MEDAL, INTERNATIONAL EXHIBITION



STEAM CRANES,
Portable or Fixed, for Railways, Wharves, &c., for
unloading
COAL, BALLAST, &c.,
from 4 cwt. to 30 tons.

LOCOMOTIVES,
6 to 27-horse power. For Steep Inclines and
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Gauge from 2 feet upwards.
Geared to draw very heavy weights in proportion
to their power, and SPECIALLY
SUITABLE FOR



Contractors' Work, Railway Sidings, Coal Mines, Quarries, Gasworks, &c.

These Cranes were selected by H.M. Commissioners to receive and send away the Heavy Machinery in the International Exhibitions 1862, 1871, and 1872.

WIMSHURST, HOLICK, & CO., ENGINEERS.

Works: REGENT'S CANAL DOCK, 602, COMMERCIAL ROAD EAST, LONDON, E. (near Stepney Station)

MANCHESTER WIRE WORKS.

NEAR VICTORIA STATION, MANCHESTER.

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Manufacturers by STEAM POWER of all kinds of Wire Web, EXTRA TREBLE STRONG for
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Jigger Bottoms and Cylinder Covers woven ANY WIDTH, in Iron, Steel, Brass, or Copper
EXTRA STRONG PERFORATED ZINC AND COPPER RIDDLES AND SIEVES

Shipping Orders Executed with the Greatest Dispatch.



Original Correspondence.

MINING IN NEW SOUTH WALES.

SIR.—As showing the sudden start that gold mining is taking with us (after the last eight years apathy), the four following extracts from this day's paper are no bad criterion of what the Colony's resources are likely to be if but capital and skill be brought to bear on them.

GRAFTON.—Fuller particulars concerning the trial crushing of Nana Creek stone at the Mint state that quartz from the surface to a depth of 16 ft. yielded at the rate of 20½ ozs. per ton, and at a depth of 25 ft. 15½ ozs. per ton. The total weight of stone was 45½ cwt., and yielded 58 ozs. 17 dwts., valued at 3½ 17s. per oz. (new discovery last month). The accounts received to-day state that at 30 ft. the stone surpasses any yet raised. The reef is over 4 ft. wide. There is considerable stir here among leaseholders since the receipt of the result of the crushing.

GOULBURN.—A reef has been struck at Dog Trap, Junction Point. The fact soon became known and claims were quickly marked out. The vein is reported to be 15 ins. thick and well defined.

BLAYNEY.—McDonald's claim at Milburn Creek has been sold to a party of Melbourne speculators for the sum of 18,000£. It is also reported that several Blayney investors in other claims at Milburn Creek have sold out for the same party at very high figures. It was quite summer weather to-day, and this afternoon it looked very like more rain.

ORANGE.—A further dividend of 9½ per scrip has been declared in the Reform Gold Mining Company, Lucknow. This is the result of 17 cwt. of stone, which gave the unprecedented result of 245 ozs. of gold and 55 ozs. of silver. The net value per ton is 1031½ 8s. 6d. Dividends to the amount of 36½ have been declared since June 2 last. Mr. Newman, the manager, intends to call a general meeting of the shareholders at an early date. 25,000£ cash has been offered for the mine.

This last named company is a lease lately re-worked on the once celebrated Wentworth freehold estate, whence over 6 tons of gold were taken out at comparatively shallow depths, and is a further proof that it only wants capital and perseverance to succeed.

Gympie (in Queensland) is also giving extraordinary yields, and in most cases from reefs which had been abandoned for years! (after the first rich surface finds were worked out). At the two mile also the formerly celebrated London and Bristol reefs are again being worked, and three claims are again on gold within a few feet of where the original prospectors left off.

Sydney, September.

R. D. ADAMS.

NEW SOUTH WALES.

SIR.—Owing to the boundaries between us and our sister colonies of Queensland and South Australia being at last determined, we now find that New South Wales contains 310,937 square miles, which is sold, leased, or otherwise disposed of thus:—Free grants and sales, 29,000,000 acres—say, value 29,000,000£; pre-emption and auction lease, 16,766,811 acres, rent 55,415, or 2½ 2s. 3½d. per square mile; pastoral leaseholds (five years), 133,225,952 acres, rent 167,208£, or 16s. 1d. per square mile. Add 20,000,000 acres for forests, roads, cities, towns, parks, reserves, and land under rivers, lakes, &c., and our whole estate is pretty well accounted for. At a 5 per cent. interest standard the above figures would represent a fee-simple value respectively of 17, 1s. 4d., and 6d. per acre; so there is a large future margin of value here as security for the public creditor.

The area under cultivation is only 706,498 acres, and we are actually importing nearly one-half of our breadstuffs from South Australia and Victoria. Our live stock returns to Jan. 1 show thus:—Sheep, 35,390,000 (increase of 5,000,000 on previous year); cattle, 2,800,000; horses, 370,000.

The lease rent of the 133,000,000 acres is barely 1-3d. per acre, and the value of the wool raised about 1d. per acre, so the State has a large margin here for increased rentals. But the most important fact, and one which does not show in the above returns, nor can it be absolutely proved by statistics, though it is pretty well known to all practical squatters, is that by far the largest portion of our live stock is depastured on the comparatively small freehold land, thus showing that the future resources of the colony are when a better tenure enables the leased land to be likewise improved; and as our annual cost of fat stock is at least 9 per cent. for sheep and 10 per cent. for cattle, which could be largely increased if a good market were opened, there is no fear of scarcity of supply for the "foreign meat trade," even after our wants are fully supplied.

As a proof of what rental could be got from our public estate if properly managed, the "church and school lands" let readily from 4d. up to 1s. per acre per annum on 20 years' leases, although, taking them all round, their quality is not superior to the average of the other leasehold lands; so that, irrespective of our railways, which would alone nearly, if not quite, pay off our national debt, we should be easily able to screw another two or three millions annually from our pastoral lands, and thus form a sinking fund to pay off all our loans, both principal and interest, as they respectively fall due.

Sydney, August.

R. D. ADAMS.

FRENCH MINING ENTERPRISE IN BRAZIL.

SIR.—Commandador Prof. Gorceix, the talented director of the Government School of Mines at Ouro Preto, has recently visited Diamantina and the Jequitinhonha district, where the French seem desirous of exploring for diamonds upon an extensive scale. Mons. Gorceix has now returned, and has proceeded to Europe. At Paris the Rego is proceeding satisfactorily, favoured with dry weather. At Itabera the tradespeople and working class are most anxiously waiting the completion of the purchase of the Mina de Meia Mine and the arrival of the officials to start the company. They recollect the good times they had under the General Brazilian Company. Other negotiations are going on for mines in this neighbourhood. Cap. Eslick, the late mining captain at Morro Velho, St. John del Rey Company, who resigned his post, has arrived at his property of Carrego de Sao Miguel, and is making a thorough exploration to test the truth of the former reported richness here. The movements of Capt. Dale, late of Cuiaba, are not yet decided; but it is probable he may take to some mines at Vera Copo. At Rossa Grande the same lamentable destruction of the shareholders' property is allowed to continue, and a great breadth of the magnificent woods has again this year been destroyed for planting mieto, solely to the loss of the shareholders and the benefit of a few Brazilians, the rent hardly paying the cost of superintendence. Why is not this mismanaged company wound up whilst there is something to divide, and not let it all be eaten up by the Brazilians? The board ought to be held individually and personally responsible by the shareholders for this unprecedented neglect of their interests.

Mr. George Manders has completed and handed over to the Government the telegraph line from Carandhy to Ouro Preto, and is now about inspecting mines in the Santa Barbara district, and will survey and confirm the marks of the property at Cuiaba, attempted to be claimed by the St. John del Rey Company (Limited) of London; but over which to decide any possible dispute the Imperial Government have granted a special privilege or grant, No. 7512, declaring that the St. John del Rey Company cannot allege any rights to explore or mine upon the property, and this is by far the most important point of Cuiaba. So much, therefore, for Mr. Hockins' remarks on this matter at the general meeting. At Passagem matters are proceeding satisfactorily under the management of Mr. Wenderborn. Mr. Partridge, the "Verdad" and vulture of Mr. Scholefield, has proceeded to Europe. Mr. Scholefield evidently forgot the peculiar faculty of vultures, and, therefore, did not see the full application of his mild joke re "Verdad," and his attraction to the affairs of the St. John del Rey Company. The petition of the St. John del Rey Company to the Imperial Government to have a different interpretation given to the provincial law imposing 4 per cent. upon the net produce of mines has been referred to the President of the Province "to be informed upon." This is merely "pour passer le temps," or, as the Americans would frame it, to fool the petitioners. In the meantime, a motion has been made in the Provincial Parliament, with a view to censure the Government for laxity

in collecting the tax. Mr. Jacintho Diaz, though not agreeing to the motion, took the opportunity to fling much mud at the St. John del Rey Company's officials, and charged them broadly with making false returns to avoid the tax. He charged very broadly, and called a spade a spade. He contrasted the returns of profits declared in London and the returns made of losses to the collector in Sabara. This is a violent contrast, and seems strange coming so soon after Mr. Tendon's much forced exordium at the general meeting. This speech of Mr. Diaz's must have been anything but pleasant reading for the officials of the St. John del Rey Company. The last theory started re the Catta Branca case is that the wages of the young ones paid for the keep of the old. Formerly they said the wages were paid in London (which was the fact); but, supposing this last theory to be correct the shareholders as well as the blacks would have suffered, for it was the duty of the officials to not pay higher wages than each one was worth; but as the young and strong did not receive the wages they were entitled to it is difficult to understand— but simply it would appear that the persons who were in London kind enough to receive these wages for their black brethren at Morro Velho without any authority from them to do so must in several instances have been receiving a higher rate of wages for them than the blacks would have received had they been working for themselves, and not been deprived of their wages by the parties in London. These ugly questions following so quickly one after another in which the name of the St. John del Rey Company so prominently appears has a very bad effect here. At Morro Velho every effort is being strained to keep up produce; the reserves are attacked to cover the failing produce from the bottom of the mines.

Ouro Preto, Sept. 23.

ZEBRATO.

BRAZILIAN MINING.

SIR.—Although there have been no important changes in the situation of our mining interests during the past few months there is considerable doing in the way of prospecting and preparation. Reports from the mines near Caethe—Brazilian Mines (Limited)—are very good, and there is more now being done in the Jacotinga than for years past. At Morro Grande the waters of the Corrego San Miguel are taken up some distance above the village, and hydraulic washing will be commenced at a point where in the rainy days of Gongo Soco lines of jacotinga were uncovered, and which were said to be very rich. Gold in this formation is found in bars and nuggets. It is a wonder to me that Londoners, with their passion for mining, and especially speculative mining, have not given this country and the jacotinga formation more attention. The climate is fine; labour is cheap, and supplies are easily obtained; life and property are as secure as they could be in England. The majority of the population are very poor, but all are glad to find work. The country is well watered and timbered. In California little is thought of an expenditure of 40,000£ or 50,000£ for bringing water to a good mining claim or to a mill; here water is near, or within one or two leagues of every known mine and bit of mining ground. It can be brought on in nearly every case at a cost of 2000£ to 10,000£. The work on the Corrego San Miguel is attracting much attention, and a second Gongo Soco is confidently looked for. The exploration is for account of a few persons (English), who have subscribed a certain amount of capital to be expended here and elsewhere in the province in opening new mines. The Pari and Pitangui mines look well; work going on as usual. Antonia Pereira is improving; a little energetic work has proved the capabilities of this noted spot. Some of the lines are very rich, and new discoveries are constantly being made.

The Don Pedro North del Rey drags on slowly, and it is a pity, for the mine is by no means worked out. Is there not life enough in the company or the shareholders to investigate matters a little, and find a way to get the water out of this mine? At Passagem mill-building is going on, and a moderate force of miners are at work underground. The St. John del Rey Company are charged by the Provincial Government with rendering false returns of their produce or profits to the tax collector. I have heard this hinted at before; the charge is now officially made. I shall tell you if it is settled and how later on. I notice that the company publish in the Journal the produce for each ten days, with the yield of gold per ton, and at the end of the month the profit made. This custom should be adopted by all mining companies for the satisfaction of their shareholders. I hope the St. John del Rey manager in London will continue the practice. The new mining laws will be beneficial to prospectors and new companies. They are especially made to aid and encourage fresh enterprises. We hope to attract a share of the large capital now being invested in mines. Perhaps some new jacotinga discoveries will aid us in so doing.

Ouro Preto, Sept. 24.

MINAS.

THE SOUTH AFRICAN DIAMOND FIELDS.

SIR.—While I am writing the thermometer is 94° in the shade. The fine calcareous dust enters the nose, eyes, and ears, and while passing through the streets a person hears little else but the popping of corks and the one exclamation of "Oh! how hot!" The hotel and canteen keepers try their best to provide their customers with cooling drinks, which I may remark are about the same temperature as the hot coffee supplied at English railway stations. One person whom I saw this morning with a glass of beer somewhat below the ordinary temperature, regretted that his throat "was not a yard long." The heat and dust are almost unbearable, and if we do not get rain soon there is a probability of a great deal of sickness.

Since I last wrote mining affairs have not improved. Dividends are by no means numerous, although the British are making tremendous efforts to pay a good one, but the people (of Cornwall at least) know the folly of what is locally termed picking the eyes out. It is currently reported that the present manager, who is a large holder, is about to retire. The great bugbear of the Kimberley Mine is the Reef. The contractors, Messrs. Teague and party, have been obliged to give it up after working a year, and loosing near 14,000£. I am sorry for them because they have done their best. But their plan for removing the reef is ill adapted to the place. It must be difficult for persons in England to form an idea of what is meant by a mining company calling for tenders to remove the reef, &c., but for the benefit of my mining friends I would point out that it is tantamount to a company in Cornwall stopping out the rich runs of copper and tin in a dangerous mine, and then calling for tenders for some other company to secure it (the mine) for them. The proprietors of the Kimberley Mine when they remove the ground receive from 3s. 9d. to 5s. per load of 16 cubic feet, but contractors who are not proprietors receive 1s. 6d. per load of 16 cubic feet. If any person wants to know the reason of this difference in price I cannot tell them. I regret to find that the companies in the Kimberley Mine carry on their blasting operations on Sundays the same as week days. The mine is situated about the centre of the city, and is surrounded by churches belonging to Jews, Greeks, and Episcopals, Papists, and Non-conformists, and all are disturbed (frequently) at their devotions by the thundering of numerous discharges of dynamite.

The share market generally is dull. Fresh mines are plentiful but are not in great demand. Salted mines are a drug on the market, and investors are beginning to exercise a greater amount of caution, consequently the time is not far distant when there will be a less number of mines in the market. But those that remain will be at least *bona fide* if they are not rich, and some if offered at reasonable rates will be sound investments. Many of the companies here do not pay dividends solely on account of the extravagant management, which is generally entrusted to persons without any previous mining experience. The whole system is bad, or rather there is a total want of any system. A case appeared in one of the papers yesterday where the returns of a company were about 50£ per week; the overseer of the said company being discharged the returns immediately rose to 500£ per week.

European investors will do well to examine closely into the mode of managing the mines in which they are interested, and not throw all the responsibility on the shoulders of local shareholders. Many persons who were poor might have been very rich, but being a little too grasping they have tripped on their own cupidity. Many others who a few years ago kept small Kafir shanties, or who came here with a small box containing brumagem shirt studs or a tin spoon are

now millionaires and the unapproachable upper-ten of the place. I hear a great cry for immigration, but this place is dreadfully overcrowded with white people. There are hundreds of Cornish miners who cannot get an hour's work, and clerks and accountants are at a dreadful discount, and unless there is a speedy revival in mining many of the working classes will be compelled to leave.

Kimberley, South Africa, Sept. 28.

CORRESPONDENT.

THE CALLAO-BIS GOLD MINING COMPANY.

SIR.—This company has been in existence 15 months, and we have fortnightly communication with Venezuela. Doubtless Mr. C. Downs, the manager at the mines, sends his budget of work done by every mail to the directors. How is it then that the shareholders are not allowed the benefit of those reports, whether good, bad, or indifferent? The reports of mines working in the same district are published in the *Mining Journal* fortnightly. Is it too much to expect the same consideration should be shown to the shareholders in the above company?—Oct. 25.

RAMSAY COOKE, R.N.

THE OLATHE SILVER MINING COMPANY.

SIR.—During the time the above company was being floated we were regaled with numerous telegrams of an astounding nature by Mr. Ashton. Since the allotment has taken place, however, the wires have been allowed a rest and are getting rusty I am afraid. The shareholders are now left in ignorance of what is taking place at the mines. As we are placed in constant communication with Leadville, doubtless the mining captain sends his weekly reports to the directors, would it be asking too great a favour that they should give the secretary instructions to forward extracts from the reports received to the *Mining Journal* as is done with all well regulated companies.—London, Oct. 25.

RAMSAY COOKE, R.N.

JAVALI COMPANY.

SIR.—Please correct an error in the report from the Javali Mine as published in last week's Journal. The managers letter states "that notwithstanding the hardness of the quartz in Pims' tunnel he intends to keep the work going." Your print is "that notwithstanding all difficulties he intends to keep the mill going."

St. Swithin's-lane, Oct. 24.

EDWARD SCHUBERT, Secretary.

RIO GRANDE DO SUL MINING COMPANY.

SIR.—The two letters that appeared in last week's Journal from the secretary of this company and Mr. Clemes compel me to give a positive denial to their statements, and in proof of my assertions to quote the following letters of the agents in Rio Grande do Sul, leaving your readers to form their own opinion thereon. Mr. Morgan, writing by order of the directors, says that I was dismissed months ago by Clemes, *vide* the report published in June last, and which he again sends you for publication. As I stated in my previous letter, Mr. Clemes had no power whatever to dismiss me, nor had the directors according to the Articles of Association and the contract they themselves made with me, save under certain conditions, named in the 7th clause of that contract, none of which were attempted to be fulfilled by the board, but of this the Court will soon have an opportunity of deciding. On July 25 the agents wrote to the board thus: "On the 9th inst. (July) we received your telegram, 'Wire who is in charge at Lavras,' to which we wired immediately, 'Bankart until successor appointed.' On July 23 we had your cable 'Your action approved,' from which we saw that you were satisfied with the course adopted by us, and we informed Miguel Mesa at once that Bankart was to continue in charge of the mines until further orders of the board would arrive. The same day (23rd) at night we had a telegram from Mr. E. Klingelhofer, one of the permanent commission, running thus:—'Telegram from London. Make Pietzcker execute instructions. Pooley awaits here a fortnight until he knows result of mission of Miguel Mesa' (to whom Clemes had sent a sub-procuration of his power). We really are surprised at this, because you know very well that the instructions have been carried out to their full extent, and that Mr. Bankart has declared his willingness to hand the mine over to the person you would appoint. And why, instead of giving us your instructions direct, do you cable to Mr. Klingelhofer to 'make Mr. Pietzcker execute instructions?' Mr. Klingelhofer is not our superior, and please to remember we have resigned our post, and are merely continuing to act as your agents because you have as yet nobody to substitute us, as we do not wish to bring you into difficulties through an immediate refusal on our part to act for you any more. We do not see the sense of your cable to Mr. K. This gentleman kept Pooley in Rio to await the result of Mesa's mission. Evidently Pooley did not tell him that Bankart was willing to hand him the management, but that he himself refused to accept it. Yesterday I had a letter from Mr. Miguel Mesa, who paints the state of things at Lavras very black. He tells me the news that the work had been stopped for want of money already since June 1, and that consequently the concession would be forfeited on July 31. Mr. Bankart has not a farthing in his possession. They are without bread and meat; the animals are dying for want of corn, &c. The workpeople pressing continually for their over-due wages. A nice state of affairs, the natural consequences of your mismanagement. You ought to know that without money everything must come to a standstill, and that the concession must get lost. If this is the case till the 30th inst. then the board will be responsible to the shareholders, and it is your duty to avoid such a calamity by all possible means. We do not wish that any body should be able to accuse us of any fault, and for this reason we cabled to you to-day as follows:—'Concession forfeited unless funds in our hands before the end of July.' It is now with you whether you will lose the concession or not, and I have promised you in time. We wait your immediate telegraphic order, and hope you will cable to the bank to furnish us with funds after having made the necessary arrangements with the head office of the same bank in London before it is too late. If we get funds before the end of July we should wire to Jose Bina to make payments to Bankart in order to settle part of the wages, &c., and take work up again without a moment's delay. We remain, &c., HOLTZWISSE, BREYER, and CIA."

On July 30 the agents in Bagé wrote me the following under special orders from Rio Grande:— "J'ai le plaisir de vous aviser que je viens de recevoir à l'instant la dépêche suivante: Mande Bankart immédiatement un conto para-continuar trabalhos e fim de não perder concessão. Esperamos fundos de Londres nestos dias, H. Breyer and Cia. Send Bankart one conto de reis (or about 90£.) immediately to carry on the work, and not lose the concession. We hope to receive funds some of these days from London. (This made altogether 180£ received by me from the agents or company since February 10 to carry on the work.)

"Conformement alors avec les ordres a dessus, je vous envoie par le porteur la somme de Rs. 1,000\$000 que vous voudrez bien recevoir et m'en accusé réception en duplicate. Allons voir maintenant si cet essai nous servira le précurseur d'une bonne continuation suivie et c'est ce que je desiré a voir—Agréez, etc., José Bina." And on August 18 I received the following from the agents in Bagé, dated August 15:—

"Suisant vos desirs j'ai envoyé votre dépêche a Messrs. H. Breyer lesquels ils ont répondu. Ultimos ordenes da Companhia. Disserao que Bankart deve retirar-se, e que fundos so podem vir depois de sua retirada. Pietzcker. (Last orders from the company. They wish that Bankart should retire, and that funds will only come after his retirement.) "Par consequent vous pouvez vous retirer sans frapper votre contract parceque les ordens sont officiels."—José Bina.

Now, respecting Clemes, who says that there was at Lavras house-building, ornamentation, &c., going on, there has never been any housebuilding or ornamentation. The company's buildings were not finished or habitable when I took charge, and the proper repairs and completion were, therefore, made in the simplest possible manner. He continues, "At the Aurora there were several natives engaged in the most monstrous work for anything called mining I ever saw." There was no native ever employed. A few men were put on to empty the shafts of water on March 6, ready for Mr. Clemes' examination, when he should arrive on the 9th. "But," says Clemes, "to my greater astonishment I was informed that their chief, Mr. Bankart, had only visited the principal mine (Aurora) once from the time of the arrival of the staff from England—a period of some months." Really it would be ludicrous were it not that nothing proves better my assertion that Mr. Clemes was utterly reckless in his statements. The staff arrived on the mine with me on Jan. 30, and I was slowly recovering from a severe attack of gastric fever. And on Feb. 18 I closed down the mines from want of funds, and on March 8 Clemes arrived in Lavras, so that from the time of their entry into Lavras until the day of his arrival 37 days had elapsed. This much for a period of some months. Then he continues his wonderful discovery, but the most astounding part of the whole was that he would not allow Capt. Pooley and the Cornish miner, who

were sent out ostensibly to conduct the mining operations, to have any control, or give any direction, or even visit the mine except he sent them on a message. Considering I personally engaged the staff I ought to be considered a pretty fair authority, and I most positively assert that there was no miner ever engaged at all or sent out, and the man left at Lavras now was engaged as a carpenter or otherwise as I should require him, as per contract. I only engaged six mechanics, as no one was sent out to conduct the mining operations. I offered Capt. Pooley the post under myself. Moreover, as there were neither timber or anything else at the Aurora either for collaring the shaft or erecting the pithead, nor wood of any description, save such as I could send from Lavras to repair the roofs of the mud huts, I opine there was no work for mechanics, seeing that funds had been stopped for the supplies, and in lieu of keeping the staff idle they were employed at the absolutely necessary repairs on the buildings in Lavras.

As to the working of this valuable lode being "entrusted to an ignorant Brazilian peasant, with a staff similar in capacity to himself," there is not the shadow of truth in the statement. The capitaz is a Spaniard, and has worked there for more than 11 years, and under the old companies, and certainly has a more correct notion of mining than Clemes. The men employed were four Swedes, whom I brought up from Rio Grande, and the others were Portuguese, Spaniards, and Italians, according to my instructions. I had made a contract with the capitaz, dating from Jan. 1, for six months to produce a certain quantity of rich ore, on the condition that he had the entire management under me, so that I could fulfil the oft-repeated instructions sent me of forwarding with the "greatest possible dispatch remittances of concentrated rich ores as real tangible evidence for the desponding shareholders," and had I not done so none of the very rich rock that I sent home, or the 150 tons at the mine now, would have been obtained. If, as Clemes says, the "staff would corroborate all his statements, and much more also," it would only prove that their veracity was of no better quality than their gratitude for the treat sent received at my hands, and if there had been the least cause for such rascally false statements why did not Clemes speak of it when at Lavras, and charge me with it before them? His letters to me subsequent to his departure tell a very different tale. During the month of March the only men employed at the Aurora and Serrito were those necessary to enable Mr. Clemes to examine the property, as the wages sheets prove, and this would not have been done had not the liquidators, permanent commission, and Holtzswissig, Breyer and Cia requested me as a favour to render him every assistance, and to make him as comfortable as possible, adding "I need not fear that after getting this out of me he would dismiss or supersede me. Clemes solemnly declared that such is not the case." And yet the man boasted at the adjourned June meeting that he went out for that especial purpose, and upon his return to Rio Grande he informed Messrs. H. Breyer and Cia "that he was very well satisfied with the mines themselves and the work done in them." On May 6 and 14 the agents write me:—

"The company will not easily find another agent, and altogether they are in my opinion up a tree, owing to the unheard-of management in London. We have read everything carefully, and with great interest. You cannot be turned out like that, and you will be sure to get your right in England. If that Jesuit Clemes should dare to appear again in our office won't he be turned out in the street? Clemes thinks he can do anything he likes."

On the May 24 Mr. Pictzcker writes me:—
"For the sake of the company I would never have accepted the mission, and even less for Clemes, for they treated me in such a way that they did not deserve that I should stir my little finger on their behalf." And again:—"The directors, however, do not seem to wish to make the mines prosper, otherwise they would have shown more activity, and not treat us like school boys, who do not deserve an answer. The board know nothing about the whole concern, otherwise they would not proceed as they do, and reflect more before they put a thing in execution. I told them that they must find another representative and another agent. As long as we continued to act as such we thought it our duty to do everything in our power to save the company's property from destruction, and only for this reason have we risked money, although, commercially speaking, it was a stupidity, because what interest can we have in trying to save the company against their own will? Now my patience is exhausted and at an end, and I shall not move another finger for the company's benefit."

The only information I had from the company of Mr. Clemes' visit was written upon a private card of Mr. Morgan's, by himself:—"Hubert Bankart. To introduce Mr. Hy. Clemes, consulting mining engineer, to make a full report on mines, &c., with J. A. Morgan's kind regards. Jan. 19, 1881." Respecting the clauses referred to I will quote the liquidator's letter of Jan. 22, 1881, addressed to the Chairman of the Rio Grande do Sul Company:—

"We have to acknowledge the receipt of your favour of the 23rd and 28th ult., and telegrams referred to in the letter, and in reply we beg to say that we regret that we cannot meet your views with respect to the reversion clause. The evident want of harmony in the board of directors, the deference shown to Mr. Griffin, though he is said to be powerless, and his threats to upset the company, and above all the probability of his going on the board on his return to England, make us feel very anxious about the future of the property entrusted to us, and we should be poor negotiators if, in view of these dangers, we did not protect the rights of those who entrusted their interests to us. Mr. Bankart's powers were well examined before the transaction was finally concluded, and we do not see that these powers were at all exceeded. However much Mr. Bankart wished to exclude the clause we would not waive it, as it was inserted by English counsels advice as the only means of securing the property to its owners in case the company went into liquidation. There is nothing objectionable in the clause if the board be acting in as good faith as we are; it is our interest to see the company prosper, but if the liquidation of the company was really intended you must allow that the clause is absolutely necessary. Before concluding we would add that we will not agree to a change of the superintendent. Mr. Bankart is the person who treated with us, and in whom we have perfect confidence, and who is capable and competent to carry the enterprise to a successful result.—FARIA, LEBRAL, PETROCHINO, HENRY HARPER."

The board were warned by me on September 2 about this clause, and they took no notice of it. The one about myself was according to the agreement with Mr. Backheuser, who made the contract with me for the sale of the property, and upon this condition only did he agree to the transfer for shares in lieu of gold. The mechanics' contracts were made that if on the expiration of 12 months or afterwards the company went into liquidation, or their business should be unprofitable, the board could dismiss them upon paying them six months wages or giving them six month's written notice.

HUBERT BANKART.

Administrator of the Rio Grande do Sul Gold Mining Company in Brazil.

Herts Oct. 25.

EUREKA (NEVADA) MINING DISTRICT.

SIR,—I have the pleasure to hand you my usual budget of news received from this mining centre:—

We learned yesterday from pretty good authority that but little work will be done this fall or winter on the Eureka and Colorado River Railroad, owing to the lateness of the season, but that active operations will be commenced in the early spring.

From the small number of idle men seen about town we judge that there are but few out of employment.

The Eureka Consolidated has paid 71 dividends, amounting to \$4,730,000. Superintendent Hartnett, of the Eureka Tunnel, informed us last evening that his bonanza continues to improve. He has stripped 20 ft. of rich ore, and will commence breaking it out on Tuesday next.

If one-half the ore that has been encountered in the Eureka Tunnel had been found in any Comstock mine there would have been a boom in the stock to stir up the entire market.

Charles E. Allen has been appointed night boss (or foreman) of the Richmond Refinery. Mr. Allen's long connection with the works has made him familiar with the refinery, and a more intelligent and conscientious workman could not have been promoted to the position.

More custom ore is being received at the Eureka Consolidated and Richmond Works than ever before.

Morris Hartnett yesterday shipped about 20 tons of high grade ore from his industry mine to the Ruby and Dunderberg Works.

The Banner Mine is yielding higher grade ore than ever before in its history. The Banner has produced more tons of ore, first and last, than any other mine on Prospect Mountain proper.

Secret Canyon will make a big racket in the mining world before long.

Charles Brody has the contract from the Geddes and Bertrand Mining Company, at Secret Canyon, for hauling 200,000 bricks, 300,000 ft. of lumber, and 250 tons of machinery, to be used in the erection of the company's new mill, which is now in course of rapid construction.

Charles Brody's teams yesterday commenced hauling 250,000 bricks to the Geddes and Bertrand Works at Secret Canyon.

About 20,000 bricks are daily being hauled to Secret Canyon for the Geddes and Bertrand leaching works.

Work on the Geddes and Bertrand new mill is being pushed on as rapidly as possible.

R. Ryland has just received a contract for furnishing the bricks for the new reduction works of Gilmer and Salisbury at Secret Canyon. The price is \$25 per thousand.

The Monumental Tunnel Company, composed of the following incorporators:—L. L. Robinson, Senator Stewart, George A. Fletcher, J. L. Wines, J. N. Williams, Charles Brody, and Ben Levy—yesterday located their tunnel site in Billy Martin's Canyon, about half-a-mile this side of Secret Canyon. Work will be commenced to-day.

The development lately made in the Deadbrooke is still improving.

A quantity of fine ore is now being raised from the Titus Mine. The Shoo Fly Mines, adjoining the Satellite, were yesterday sold to Eastern parties for \$12,000.

Superintendent Levy yesterday selected a location for a double compartment shaft on the Shoo Fly Mine.

A lot of mining tools were sent down to Safford district yesterday. This indicates business.

A new assaying outfit was purchased yesterday, and is to be sent to Safford district. An assay office has been greatly needed there.

A very rich discovery of gold quartz has just been made about 2½ miles from the new Safford district, in a southerly direction.

London, Oct. 26.

RUBY HILL.

THE HOOVER HILL GOLD MINING COMPANY.

SIR,—I would desire to caution the shareholders of this security against parting with their shares at the low price to which they have been driven, partly owing to unscrupulous persons who have taken the partial failure of the Potosi Mining Company as a beacon with which to warn the public against all foreign mines in general as promising investments; in doing this I have no doubt they hope to get the capital which is being so expended for the working of home mines started in many cases on worked out property. As one whom chance has favoured with facts as to the directors of this company, I would say that I am of opinion that it would materially injure the public reputation of such men of tried practical experience as have the management of affairs in this mine to be mixed up in any way with a concern at all likely to terminate disastrously for the holders of shares. I note 1½ shares can be bought in the open market for about 10s. per share, yet there is sufficient capital not yet expended to go largely to refund in full this amount, besides the valuable assets comprised in machinery, land property, &c. Parting with shares at this price must evidently necessitate a loss to the unfortunate holders who are prevailed upon to sell their chance in the unequalled prospects of this company, which have hitherto been attained as fully as could have been expected. I trust, as one who is entirely disinterested in the price of all mining securities, that shareholders may take warning against further sacrifice of their shares. H. C.

HVIDESEID SILVER AND COPPER MINES—No. II.

SIR,—The interesting report of Mr. J. Vogt, geologist, amanuensis of the metallurgical laboratory of the University, Christiania, I thought would have some interest for several of the readers of the Journal. Mr. Vogt has made a geological study of the district, and in his report to the owners of the mines he says as follows (the report is required for sale of the mines):—"Hvideeid is situated in the southern part of Norway, by the lake named Bandak and Hvideeidwater, about four Norwegian miles (28 English miles) from the southern end of the lake (Strengen); from this place there is a good road (two Norwegian miles) to Ulefor; from that place steamboats are going to Skien, seaport for the largest ships. From Ulefor to Skien is four Norwegian miles. It is to be remembered that within some years a now proposed channel will be cut and then the steamboats can go directly from Hvideeid to Skien. The geological formation at Hvideeid is the Cambrian or Takonian (situated between the azoical and silurial). The rocks are in common hornblende, schist, and quartz, more seldom grey gneiss. These rocks are perforated by a great multitude of ore lodges; I will especially call attention to that fact, that they are "genuine" lodges—i.e., lodges which are continuous in the drift; also there is no reason for being anxious that the ores only are forming an accidental intermixture in the lodges. As the lodges very often are crossing the strata is also a fact, constating that they are "genuine." The invaluable mineral in the lodges are most often quartz, sometimes calcspar, more seldom fluor-spar, some places is the ore situated in or on common granite "loles. The ores deposited in the lodges are: grey copper, blue copper, yellow copper, galena, only two places a little zinc, pyrites and iron. Native silver and gold is found in one of the mines. The copper ores from Thelemarken (the district in which Hvideeid is situated) are more or less argentiferous, also the galena is always argentiferous, sometimes very rich in silver."

I visited this time 30 different mines or ore lodges; these localities can be divided in different "formations of ore lodges," just so as can be done in the great, celebrated foreign mining districts. In Morgodalen the ore-lodes were containing only grey copper; directly eastwards blue copper lodges; between these as an exception ruled copper pyrites; southwards blue copper by Kroksmyr and Storslaats; eastwards from the last Bygstøil with yellow copper and silver-lead, commonly separated, sometimes in the same lodge; in this district is also to be found some blue-copper lodges. All the ore lodges I was shown were situated high ways, houses, or home-fields; this is a moment to remark as a sign for that these great mountains not yet are sufficiently organised. An examination should show many other valuable ore-lodes.

This was the general report, the special description of the mine you have already been so kind to take in the Journal for some of the mines; another time I will tell of the other mines in Morgodalen, &c. Norway, Oct. 22.

OBSERVER.

PANULCILLO COPPER COMPANY.

SIR,—As an old shareholder of the Panulcillo Copper Company, I look with great satisfaction upon the present state of its finances, and hail its taking its place amongst permanent dividend-paying mines. The ease with which the 35,000l. 6 per cent. debenture capital was placed over par shows a confidence in its future, which is well merited by the good management at the mine and in London. What amazes me is the low price at which the shares stand in the market—viz., 5½ cum div., which makes them about 5l. (1) the 4l. share. Compare the Rio Tinto shares with this; they, with an enormous capital, stand at 25l. the 10l. share, and pay a dividend of only 12 per cent. By comparison, the Panulcillo shares should at least stand at 8l. the 4l. share, paying, as it will, a dividend of at least 10 per cent., and I look forward to their attaining their proper value before long. The chairman of the company seemed to me to understate matters, but as he is a very large shareholder he may have preferred to be very guarded. But the facts speak for themselves: 80000l. profits in four months, with a better outlook for the remaining eight months, means a minimum dividend of 10 per cent., and with better prices for copper may mean much more. I have added to my holding, and were my means greater should lay in a store. CHILIAN!

PANULCILLO COPPER COMPANY.

SIR,—Permit me to call the attention of your readers to a cheap and sound mining security in the shares of this company. The few shareholders who attended the annual meeting on Tuesday were naturally highly satisfied with the results and prospects so ably set forth by the chairman. The dividends distributed for the last financial year equal 9½ per cent., yielding to investors at the present price of the shares 7½ per cent. on the money invested. This very satisfactory result, the chairman pointed out, would have been still better but for exceptional circumstances, which have now nearly disappeared. The results of the last four months working confirm this view, as they show a great improvement—the same profit as that made during the previous six months. Stone crushers and boring machines are being sent out to the mines, with the view of reducing the amount of labour required and increasing the output of ore. The fuel required for the current year has been got on the most favourable terms, or at a cost equal to 50000l. less than the cost of the fuel shipped in 1880. This saving equals 2½ per cent. on the ordinary capital of the company. The bonded debt has been steadily reduced from 80,000l. to 40,000l., and 50000l. more is to be paid off this year. The balance, 35,000l., has been successfully placed at 6 per cent. instead of the 10 per cent. previously paid to the bondholders, and the new bonds were taken up at a little over par. The saving in interest on the bonds is equal to about another 1 per cent. on the ordinary capital.

Copper has been higher lately than it has been this year, and as the stocks of this metal show a considerable reduction, the improvement is likely to continue. The chairman, in his concluding remarks, very fairly expressed his belief that the handsome dividends now paid might be materially increased by the modern appliances now being adopted. The shares are now about 30s. lower than they were

in the early part of this year, when neither the prospects of the company nor those of the copper market were so good as at present. The shares of this company are relatively much lower than the shares of the Rio Tinto, New Quebrada, and other copper companies, and I believe are well worth the attention of investors at the present price.—London, Oct. 27.

PANULCILLO.

THE ROCK-DRILL COMPETITION AT CARDIFF.

SIR,—It was not our intention to make any remarks on the so-called Rock-Drill Competition at the Cardiff Exhibition; but, seeing Messrs. Normandy, Stillwell, and Co.'s letter of the 12th inst., in the Journal of the 15th, and as that firm are now trying to make capital out of what was not a trial, nor ever intended to be a trial, we perform must take some notice of the same.

No awards were ever offered or intended to be offered by the Exhibition authorities or any other parties. The whole thing arose through our being requested to send one of our men down to the Exhibition to run the Eclipse Drill before some gentlemen, which is proved by the copy of the letter (herewith enclosed) which we received. As we had one of our men in the neighbourhood of Cardiff we instructed him to proceed to the Exhibition, and run the drill before the gentlemen named in the letter. The principal of this firm, being on his return from Milford, also called to meet the gentlemen referred to. In the main we beg to confirm the statement by "A Purchaser."

It is not our intention to decry the machinery of any other proprietor; but, if Messrs. Normandy, Stillwell, and Co. wish to prove to the public definitely and without fear of dispute that their machine is superior to ours we will give them the chance of doing so, by placing the two drills side by side for any length of time in either level, tunnel, quarry, or any other public work for any sum of money they may choose to name or without, as they may deem best, our only object under the circumstances being to prove incontestably which is the best drill in every shape and form.

We have entered our drill in the forthcoming Exhibition of the Mining Institute of Cornwall, where a trial is being arranged for. Will Messrs. Normandy, Stillwell, and Co. meet us there? In regard to price Messrs. Normandy, Stillwell, and Co. make a great noise; but, as usual with those who shout loudest, they are in error, and we think that matter had better be left to purchasers.

London, Oct. 27.

HATHORN AND CO.

Drill Hall, Cardiff, Sept. 20, 1881.

DEAR SIRS,—Several gentlemen connected with mining are anxious to see your rock-drills at work, and as they will attend here at 6 P.M. on Friday evening next we shall be glad if you can arrange for someone to attend for the purpose of working them on Friday next at the time named.

J. S. WATLEY, } Hon. Secs.

EDWIN SEWARD, }

Messrs. Hathorn and Co., 22, Charing Cross, London.

AUTOMATIC ORE SEPARATOR.

SIR,—It has several times been remarked in the *Mining Journal* that the result of the depression from which mining, with other industries, suffered a few years since, had been to bring about a more economic system of working which tends to increase present profits; but I much doubt whether for economy any can surpass the automatic ore separator invented by Mr. Edward Davies, of Liverpool, which really makes the mineral in process of dressing produce the motive power for performing the operation. It will readily be understood that by a little ingenuity on the part of the captain of the dressing floors he will be able to do as much work with half-a-dozen assistants as he now does with 50. The invention consists essentially in making the weight and descent of the material operated upon produce the motive power that works the machine and cleans the material, also in the apparatus that is used in effecting the cleaning, and is applicable in all cases where granular non-adhesive material is used, though, of course, for each variety of material or use the details may be varied, and for some purposes and materials it is obviously better adapted than for others. In carrying out the invention he causes the granular material to fall on to a bucket or other wheel, such wheel, in fact, as would be used to utilise a water-power on the overshot or breast wheel principle. On to this wheel in any convenient manner the material is fed by a spout feed hopper or otherwise. The weight of the material causes the wheel to turn. As the stuff arrives near the bottom it is allowed to fall on to a series of inclined sieves fixed in one or more inclined frames, which if desirable can be shaken by tappets or other mechanism on the wheel.

The practical dressing master would probably find the brushes which Mr. Davies uses in the cleaning of corn equally applicable for ore, just as brushes are found useful on the buddle, and the fan or suction current would no doubt be found useful to hasten the separation. In some cases he proposes to use both a blowing and suction fan combined. These fans are also driven from the main wheel or from a brush spindle, and can be used if desirable in the sieving operation, where the various sizes of material above and below the standard mesh are separated one from the other, only the standard material as regards size going to the brushes; when the invention is applied to the separation of finely crushed ores, of course, somewhat different details are required, but the wheel forming at the same time the motive power and delivering apparatus is the same. For some ores circular or cylindrical revolving riddles are better than ordinary sieves, and can be used with or without other beaters or cleaners. If the ore, or other material, be not sufficiently manipulated by once passing through the machine it can pass on to a similar wheel and machine on the floor below and so on until completed, while, if the weight of the ore be not quite sufficient in all cases, a heavy weight can be added to the shaft of the main wheel to cause additional force, so as to assist the wheel, and can be connected by a strap or otherwise, the weight being wound up or raised every hour or when required as it runs down, or other auxiliary power could be applied. The wheels can be used in many cases where granular non-adhesive material is in an upper floor and has to descend to be manipulated in a machine below. In some cases a second wheel receiving the ore below can be used to assist in driving the fan or cleaning arrangement. He usually makes the angle of the inclined sieves and of the buckets adjustable by set screw or otherwise.

The cost of erecting the apparatus would be very small, and as it could not fail to secure a large reduction in the amount of labour necessary it would be well worth a trial in many mines.

Oct. 25.

STUDENT.

COST-BOOK MINES VERSUS LIMITED.

SIR,—The "pros" and "cons" on the merits of the two systems have been fully stated in your valuable Journal, saving the results. For nearly 30 years I have been intimately mixed up with mining, and cannot recall to my mind more than one dividend mine in England or Wales worth the name that has been developed by a Limited company. The Van Mine was a private property, and profitable when sold to Messrs. Batters, Monney, and Oldrey. So also Tankerville, Roman Gravel, and Lead Hills. Mellanear has been developed into a dividend mine. Truly at what cost? Three times 60000l. were raised, and 90000l. under the Cost-book would have arrived at the result. After the first capital was exhausted many of the adventurers who had paid up in full refused to contribute more. The second 60000l. was afterwards raised, and was required to fork the water and restore the mine to the state it was when the first capital was expended. The mine then passed into the hands of Messrs. Taylor, and being fully provided with machinery the amount subscribed a third time brought that success that less than half the amount on the Cost-book System would have obtained, and the prize would have fallen to the first adventurers. This is the only Limited mine in Cornwall that has paid anything. What have the others done? Let us know the results. Defrauded every merchant that has ever dealt with them, squandered the money of the adventurers, and finally gone into liquidation. Instance Penstruthal Consols, for which was charged 50,000l. for the assignment of leases. What money was subscribed above this was all but wasted. Little was done to prove the mine until reconstructed on the Cost-book. New Great Consols, after no end of predictions that the amount of tin to be speedily returned would put Dolcoath in the shade, prove a miserable fiasco. Was not 100,000l. thrown away here as effectually as if dropped in the Atlantic? What has Van Consols done? Reconstructed

tions, preference, pre-preference, loans, and debentures *ad infinitum*, until the position of the original holder becomes a question of existence. Limited Liability is a snare and delusion—a purse from which schemers abstract the idle gold of the over credulous and ignorant. The premiums for worthless and abandoned mines, amounting to hundreds of thousands of pounds, picked up by promoters and vendors for a two or three guineas tack-note or promise of a grant. Men of experience all know how a small lead mine, with machinery, on the Tamar was bought for 500*l.*, and has been introduced to the public in 40,000 shares of 1*l.* each.

If we go to Wales we need not travel beyond Llanrwst to know the result to the shareholders, notwithstanding tons of printed circulars predicted a greater mine than the Van. Yet a bubble, the only solid being the soap. It cannot be otherwise than the experience of outside people that were these Limited mines such valuable properties as the "family circulars" of Tom, Bill, and Jack represent them the public would hear little of them. Limited Liability as applied to developing mines means total loss.

Cost-book mines or joint-stock companies are the successful companies of Cornwall, as they are in America, where the profits or losses are divided *pro rata* every month or two months—assessments or dividends as the case may be. Mr. Symons, in last week's Journal, instances the abuse of the system through the over-sanguine secretary or committee of management, or the want of courage to face the loss and their position in Frank Mills Mine. I am not aware that one individual has been called upon to contribute his or her portion that was not a shareholder during the contracting of the debts; if so, then was it not the interest as well as duty of the shareholder to ascertain his or her position. When the committee of Frank Mills gave their respective I.O.U.'s to their bankers in the hope they would realise the property by selling it, and thus avoid making a heavy call, they should have called a meeting, and divided the balance against them. This case, like all that can be laid against the Cost-book System, is but the one charged against it.

Nothing can be fairer and more just than that every book and every bill shall be produced as it is, and open to inspection at the three or four monthly meetings, where they are scanned severely by the shareholders present. Such a system as practised in Cornwall and Devon (not the exceptions) must remain in the favour of all men who understand the nature and uncertainties of mineral deposits. All the pastiches, amounting to millions, have been raised and divided under the Cost-book System, and is not likely to be displaced by a system which favours the promoters, financial agents, directors, and secretaries with big salaries, who direct the wind and whirlwind as effectually to success as the mines from which they derive fees.

The above is my painful experience of Limited Companies as applied to mines, and to which I bid an eternal adieu. OMEGA.
Clifton, Oct. 26.

CAPITALISTS AND THEIR INVESTMENTS.

SIR,—There have been numerous complaints of late from capitalists who have invested in newly launched concerns, and then become disappointed because they cannot at once find purchasers for the paper they have purchased. Nor is this all—they put their grievances forward in such language that the uninitiated are led to the conclusion that these capitalists are innocent ignoramuses or ill-used victims, whilst the promoters and executive of the concerns in which they have embarked must of necessity be dishonest. But as a matter of fact there is gross exaggeration in both directions. Applicants for shares are seldom if ever the injured innocents they subsequently represent themselves to be, and promoters are usually mere agents for the *bona fide* vendors, and are no more dishonest—indeed they are frequently much less dishonest—than the Mark-lane or Mincing-lane merchant who deals in grain, colonial produce, or other merchandise, and is generally regarded as a high-class tradesman, and in every respect worthy of credit. The promoter deals in properties or businesses just as the merchant deals with corn or cotton, and the fraudulent collusion so frequently heard of among merchants is entirely unknown among promoters. It is true that instances have occurred of merchants usurping the functions of promoters, and in these cases the innocent (?) capitalists have suffered more severely than in any others, because the merchant promoter at once resorts to cornering, which the promoter proper never dreams of.

Take one or two instances. A mine in 5000 or 6000 shares, with a comparatively poor body of shareholders, happens to have a merchant promoter among their number when the concern gets into financial difficulty, and as the mine appears to this individual to be likely to prove spurious enough to give a period of apparent prosperity within a reasonable period, although there may not be the most remote probability of its ever becoming remunerative for more than a few months, determines to corner it. He quietly buys up all the shares obtainable at the market price of the day, which for a progressive mine in financial difficulty will be merely nominal; in one case 5000 shares were obtained for about 1000*l.* or less, the merchant promoter thus getting five-sixths control for that sum. He at once expends it may be a few hundreds in machinery, announces that the mine has vastly improved, which may or may not have been the fact, and calls the value of the shares 2*l.* each. The holders of the uncontrolled 1000 supposing their property is increasing in value hold on instead of selling out while there is a chance of doing so, and thus play into the hands of the very man who has cornered them. The merchant promoter finds sufficient credulous individuals to get rid of 1000 of his shares at his fancy price, not a few of the purchasers buying on their faith in the respectable merchant who is the chief shareholder, and who may even oblige them by accepting fees for managing as well; but this may be regarded as a perquisite, and passed over. The 1000 shares having been sold at the fancy price or at anything less than 25 per cent. below it, reimburses the merchant promoter for his outlay for shares and machinery, leaves him with 4000 shares free of cost and in full possession of his management and the emoluments attaching thereto. Another case might be mentioned of a Mincing-lane merchant, who trading upon his acknowledged respectability has associated himself with Welsh mines, depending for remuneration and return upon his little speculation upon his managerial emoluments and the sale of a certain proportion of his share interest at thrice the price at which they are purchasable in the ordinary market; but as it is not at all times advisable to divulge foreign office secrets I will at once pass on to the consideration of the position of applicants for shares.

The object of the Legislature in facilitating commercial and industrial enterprise with associated capital by passing the limited liability acts was to place small capitalists in as good a position as large ones, and where the limited liability system has been fairly applied the effect has been alike advantageous to owners of properties or businesses requiring development, to shareholders, and to work-people. That a system offering such enormous benefits should be sometimes abused is not surprising, but on the whole the limited liability system has been of the utmost importance to the community. The capitalists who have suffered from their connection with public companies are chiefly those who have sought to take advantage of the system of associated enterprise on the "De'il catch the hindmost" principle, and have found others too fleet for them. Many companies issue prospectuses which on the face of them bear evidence of absurd exaggeration, and could never deceive anyone who attentively perused them, nor is anyone deceived by them except to a limited extent. It is well known that moderate interest and security go together in the same way as large interest and great risk, and even the most insane capitalist outside a lunatic asylum would not pretend that if he invests in a mine promising 50 or 100 per cent. interest he expects to incur no greater risk than by investing in the Government funds; but they argue upon the supposition that truth and falsehood can be calculated arithmetically, and that too by the rule of three rather than by practice. If, they say, 50 per cent. is promised we will suppose the exaggeration is fourfold, 50 ÷ 4 = 12½, and 12½ per cent. is not a bad per centage after all; and they invest upon this basis, forgetting that a statement must be either true or false, and that in making an estimate the suppression of a single fact renders the entire estimate absolutely, and not alone partially, worthless. Thus a mineral may be worth 10*l.* per ton, but it does not follow that a mine capable of yielding 100,000 tons per annum at 5*l.* per ton will yield 500,000*l.* per annum profit, because

the entire annual consumption may not exceed 1000 tons, so that even if the price were not sent down by the over abundant supply, only 10,000*l.* income could be obtained in a year although 500,000*l.* had been expended, and the 99,000 tons of mineral being unsaleable the concern must collapse.

But in too many cases even these false exercises of judgment and unjustifiable conclusions are not even thought of, and the applicant for shares cares nothing whether the concern will be a great success or a gross failure. He considers what sharebroker has the matter in hand, and whether that broker usually runs his concerns to a premium, the applicant's sole object being to re-sell his shares at a premium at the first opportunity, hence the frequent remark heard from capitalists not—I think that undertaking promises success, but—I think the shares in that concern will go up; the speculation, it is unfair to call it an investment, being entered upon accordingly. And curiously enough the crying over spilt milk comes not from those who have embarked in a concern in the hope of profits from the business so much as from those who apply for shares for share-dealing purposes. Of course there are some exceptions—avaricious widows, light-headed doctors and parsons—though as a rule both these latter classes come in the category of bitten speculators when they are heard in the voice of complaint and over-reaching tradesmen, but these are not numerous and do not deserve much pity, because they always know enough of the world to be sure that only a business which is understood by those embarking in it will yield satisfactory profit.—Manchester, Oct. 24.

A SUCCESSFUL INVESTOR.

COST-BOOK SYSTEM.

SIR,—I was surprised to see such a misleading communication from Mr. Symons in last week's Journal. According to him persons who invest in Cost-book mines which are not rich run great risk. This is, in my opinion, a wholesale condemnation of the first mine managers in London and Cornwall, all of whom have some mines to manage which are not rich, and all of whom, according to Mr. Symons, are very dangerous men to be connected with. Perhaps Mr. Symons will be good enough to give some explanation. I have been connected with Cost-book mines more or less for the last 20 years, and during the whole of that time have never had one instance of foul play. No doubt, as with banks, railways, and every other sort of security, persons may be open to fraudulent misrepresentation, or to a fraudulent suppression of facts; but I venture to say as a result of my very lengthened experience that it is more easy to protect yourself under the Cost-book than under any other system. VERITAS.

PILLATON MANGANESE MINING COMPANY.

SIR,—A short time since arrangements were being made to work this mine upon the Cost-book principle, but the matter has been further considered, and a limited company, with 10,000 shares of 1*l.* each, has been formed for the purpose of acquiring, developing, and working the property, for which a 21 years lease, at a royalty of 1-18th, has been obtained. The property adjoins a mine that has been worked 100 fms. below the surface—the Old Tor Wood Manganese Mine—from which very large profits have been realised, and is of similar geological formation to the Chillaton Mine, which Messrs. Sim found so lucrative. Deep adit levels will be driven on the course of the lodes, which will drain the mine at a very considerable depth; as the drivages are proceeded with tramroads will be laid down and the ore trammed direct to the dressing floors; every economy will be exercised in the management throughout to ensure success. The lessees of the sett do not require any payment in cash until a large number of shares have been placed, and have agreed to accept shares, and these not fully paid, thus showing their great confidence in the mine proving exceedingly profitable.—Oct. 26. BOVEY.

THE LATE MINING REVIVAL.

SIR,—In every case that has occurred within my recollection of a mining revival there has been a check put to it by the over-selishness of selfish men. The first of such revivals was in the year 1825. Those men take the opportunity of getting money by imposing on the credulity of people who have more money than common sense, who believe all they see in print, and who think that by investing they will quickly become rich. When such ready investors and the public discover, as they have lately done, that the representations are misrepresentations, and that they have been grossly deceived, they draw in like a pricked snail, and cry out against all mines and mining men as though there were "none good, no not one." Thus they go from one extreme to another, which seems to be the rule of life with some people.

The conduct of some mining promoters in deceiving investors is very prejudicial to legitimate mining, by creating a distrust in honest men and good mines or mines deserving attention. Even such mines if not fairly represented may be wrecked, like several were lately. Who are the wreckers? Men just as selfish as even the dishonest promoters themselves—petty fogging lawyers and County Court bailiffs—men who for filthy lucre sake, but under the pretence of regard for the interest of shareholders, break up companies whose object was the development of eligible mineral properties. I find that they have selected another mine for wrecking, one in the Perranzabuloe district, a petition having been filed for its winding up. How far they will succeed remains to be shown after the hearing. I would not for a moment attempt to justify the unjustifiable conduct of promoters who charged such large sums for promotion of certain mines nor the false descriptions given of them, but I regret that the effect of the exposures have damped the ardour of speculators in mines, so that it is not very easy at present to construct a company except where a promoter has a good connection.

Truro, Oct. 25.

R. SYMONS.

AN EXTRAORDINARY MAN.

SIR,—I rarely go to St. Blazey or pass through Par without being reminded of the late Mr. Joseph Thomas Treffry, of Place House, Fowey. His numerous works will make his name remembered for all future generations. Sir Hugh Middleton, whose statue is standing near Upper-street, Islington, executed a great work by bringing water into the Metropolis by the New River; but, expensive as that work was, it is small in comparison with the works executed by Mr. Treffry. I will mention some of them which I know. Single-handed he constructed a quay at Par; also, wharves there, on land previously covered by tidal water. The works there are very extensive, affording space for the loading of many vessels simultaneously, and there is a great trade carried on in china clay and other commodities in consequence of his works. He constructed a canal from Pont's Mill to Par for the transit of the copper ore from Fowey Consols to Par, and for the conveyance of coals, &c., thence to those mines. He made a large leat for the conveyance of water from Bridges to Fowey Consols—a distance of three miles. For that water he received 1200*l.* per annum, after the outlay was repaid, more than that previously. This water was, and is still, conducted over the Luxulyan Valley by a viaduct nearly 100 ft. in height, built very substantially of granite from a design by the late Mr. Wm. Pease, who died two months ago at Boconnock. The same viaduct has a railway on it, which Mr. Treffry constructed, from Par to Roche—since extended by the Cornwall Minerals Railway Company to St. Dennis Junction, where it joins Mr. Treffry's railway from St. Dennis to Newquay. All these railways, and the branch to East Wheal Rose from Newquay, were sold by Treffry's trustees to the Minerals Railway Company, who have since sold them to the Great Western Company. The viaduct must have cost many thousands of pounds, and the railways probably 250,000*l.* He also built quays at Newquay, which, with the manor, belong to his heir; and he improved the town greatly by what he did. He expended thousands in his attempt to construct a breakwater at Newquay.

Mr. Treffry set Fowey Consols, Par Consols, and West Fowey Consols to work; from which he derived very considerable profits—probably 250,000*l.* He had a large freehold estate, which his heir now possesses, and which gives a large revenue unincumbered. Mr. Treffry was never married. He devised and bequeathed his property to the late Dr. Treffry, who did not like mining speculations, and

therefore all the mines in a few years ceased to be worked. If Mr. J. T. Treffry had lived till now it is said that Fowey Consols would be continued at work till this day. Dr. Treffry stopped operation at every point in the mines where the lode was unproductive, instead of driving through poor parts; and so the mine came to a premature end. Mr. Treffry, from his numerous works, afforded employment to thousands of hands; but not out of charity, but to carry out his numerous projects. He did not wish to die a rich man in personal state; he wished to spend all his income in some kind of productive work. He was the first chairman of the Cornwall Railway Company, of which he was a strenuous advocate; he was succeeded by Mr. Michael Williams; he by Dr. George Smith, and Dr. Smith by Mr. R. Tweedy, the present chairman.

I suppose that Cornwall never had in it a man who possessed the mind and the means of expending so much money in works of utility as J. T. Treffry. In 1846 our Queen visited Place House, Fowey, to view the polished granite, &c., upon which Mr. Treffry had expended a very large sum of money.—Truro, Oct. 27. R. SYMONS.

WHEAL JANE TIN MINE.

SIR,—The shareholders may rest satisfied that the machinery, engines, buildings, pumps, &c., on this property cost upwards of 15,000*l.*, and could not be replaced for that sum of money; therefore, they are worth that sum and more to them. However much a certain person may try to damage this mine now it is beyond his reach; he had much better spend his time in looking after West Chiverton. Wheal Jane has lately been inspected and reported upon by Capt. T. Hodge, of Wheal Grenville, who concludes his report (Sept 12, 1881) as follows:—

The returns of tin with the number of hands at present employed below ground I set down from 11 to 12 tons a month, which will about meet expenses, and when the ends are further advanced at the shallow adit to admit of stopping the returns will increase to 15 tons, and still gradually increase as the mine is opened up. I consider the 60 cross-cut going out to cut the hanging part of the flat lode a very important point; and if it be found so productive as I am led to believe, it will greatly enhance the value of the mine, and further induce you to drive other trial cross-cuts, where some important discoveries may be made. On the whole, the mine holds out good promise, and if the different points named above turn out as well as indications lead me to expect, the mine will soon be again brought into a profitable state.

Also by Capt. Charles Craze, of South Frances Mine, who concludes his report (Sept. 12, 1881) as follows:—

The present returns of tin are about 10 tons a month, and it will require only about 2 tons of tin a month more to pay the costs of the mine, and I have no doubt that this, and even a larger quantity, will very soon be realised—in fact, I believe there is every reason to expect that the mine will soon increase its returns, and be placed not merely in a paying but in a profitable position. I consider this property to be a sound one, which will only take a little time and very little money to put it right.

Also by Capt. W. C. Trevena, of Wheal Basset, who concludes his report (Oct. 3, 1881) as follows:—

I find your present returns of tin are about 11 tons per month, and with a small increase on this will pay the working costs of the mine; and on looking at the different points throughout the quantity of tinstone will considerably increase, which will materially add to your returns of tin, and at no distant date the mine will not only become self-supporting, but again resume its former position as a dividend mine at the present price of tin.

These statements are reliable, and the November sale for four weeks will be 13 if not 14 tons, and at 58*l.* per ton an extra 4 tons monthly makes a difference of about 4000*l.* yearly, but sales will increase beyond 14 tons monthly; and I believe the next call, which I expected would be 4*s.* to 5*s.*, may be 2*s.* per share only, and the last one required. Unfortunately some shareholders have been frightened out of their shares through the circulation of false statements. Some 2500 shares have gone into Cornwall since the new management, whereas under the old management there were not 400 shares held in Cornwall; this is sufficient proof that the late management was in disrepute amongst Cornishmen, who had nearly all sold out. I now hold upwards of 1200 shares, having lately bought as high as 25*s.* per share, because I have faith in the mine. I know they are the cheapest tin shares in Cornwall, and I believe the reports of three unbiased inspectors. H. GOULD SHARP.

Threadneedle-street, London, Oct. 28.

N.B.—The following is a list of the machinery, &c.:— One 60 in. cylinder pumping engine, with two boilers; one 24 in. cylinder winding engine, with one boiler; one 20 in. cylinder winding engine, with one boiler; one 30 in. cylinder stamping engine, steamed by four boilers, with a large battery of stamps capable of making large returns; one large stone breaker; a pair of capstan engines, 10 in. cylinder, to drive capstan; three calciners and two ovens, with biddles and other appliances, with a little addition sufficient to make large returns of tin. The water is now drained to the 61 fathom level, or within 20 fms. of the bottom of the mine. The old pitwork has been drawn to surface and replaced by 60 fms. of new 17 in. pitwork, with main rods, &c., complete, and in good working order.

UNITED SHEPHERDS WHEAL ROSE.

SIR,—I, in common with the remainder of the shareholders in this much tried undertaking, have received the circular of Mr. T. G. Speller, of Bristol, and cannot but express my unqualified disapproval of the action taken. I would ask Mr. Speller out of the numerous mining companies floated this year in how many cases have the engineers reporting thereon been able to speak from personal knowledge, or from having inspected the properties underground and based their opinions therefrom? If Mr. Speller is an investor in gold mines (Indian) his course of action would be to wind-up seven-eighths of them, for in these companies the opinions of engineers are vague generalities. As for the opinion of the mining expert employed by Mr. Speller, it has not in my opinion the least value. I should place far more confidence in the report of an ordinary tributer or working mine captain than that of a member of the I.C.E. I am a Cornishman, and know the gentleman reporting as Mr. Speller's mining expert, but have never seen his name attached to the reports of any of the mines recently floated, nor as a mining expert in connection with any of the well known mines in Cornwall. If I wanted an opinion on a water-works or the construction of any undertaking requiring the services of a member of the I.C.E., this gentleman's opinion would be of value. I say that if Capt. Nancarrow's report deals in vague generalities, that submitted to the shareholders by Mr. Speller is the vaguest of vague in value—of no importance—and should influence no one. A CORNISHMAN.
London, Oct. 21.

TAVISTOCK AND LATCHLEY DISTRICT.

SIR,—This district for mineral lodes is one of the most famous in the world. Here it was that the Devon Great Consols Mines opened up their extraordinary lodes just 37 years ago, and returned the sum of 118*l.* 10*s.* in dividends on every 1*l.* original share. Bedford United gave 32,500*l.* in dividends on an outlay of 9300*l.*, or about 20 per cent. yearly. Devon Consols shares continued to rise to 700*l.* each—a good price for 1*l.* shares. Economy of management with water-power assisted the mine not a little. The shareholders who were fortunate enough to be in at the commencement of the rise made money in every way. They made money by receiving 1000 to 1400 per cent. on their outlay every two months in dividends. These were grand times. Where are the Indian, American, or foreign mines that can show such results? Are there any to show one-tenth part of the 6000*l.* per annum for every 100*l.* originally invested? From recent explorations of the lodes for copper, tin, and arsenical mundie in the River Hills, at Latchley, opposite Devon Consols, every indication of very rich mines exist. West Devon Consols is now erecting an engine, and the lodes show good gossany ore. At Wheal Benny the miners have cut into a splendid lode (the Benny), and tons of mundie, tin, and copper ores have been brought to surface during the past few weeks. A good shaft, 11 ft. by 6 ft., is being sunk on Benny lode. The miners and mining experts who have seen it say Benny will be the prize of the district. Two streams of water which the mine possesses will enable all crushing, pumping, and other operations on the mine to be carried out in the most economical way possible, and this is a rare advantage compared with other mines in the neighbourhood. At Wheal Benny the hill rises from the river for 750 ft. in length at an angle of about 30°, giving 250 ft. backs. The ground then continues to rise for about 3000 ft. in length till 482 ft. is attained. These advantages can be best seen at the mine, with its 14 lodes. Near the river is the Ford lode, dipping south, where it will meet Nos. 2 and 3 lodes and the Benny lode at a moderate depth. The cross-courses and the fine lodes are what miners call the right thing, and any visitor within 20 miles of Latchley would be well repaid to visit the new mines having all virgin lodes, and where

success like Devon Consols awaits the capitalist and shareholder, and without the enormous expenditure made on deep abandoned mines—these latter necessitating the consumption of 1000 or 2000 tons of coal yearly, besides engineers.—Oct. 26. B. E.

THE DEVON AND CORNWALL DAIRY FARM COMPANY.

SIR,—Among the notices of public companies in last week's Journal the above was mentioned as being formed to work the business of a company now in liquidation. Whilst this is virtually true it is very misleading, and as some of our shareholders have been inquiring if the old company was compulsorily wound up I wish to state the following facts:—A company desirous of carrying on the business of an existing company, adopting its name and seeking increased powers, can only do so after an official winding up. I may say the financial position of the old Devon and Cornwall was all that could be desired, its last dividend (declared and paid Aug. 31, 1881) being 15 per cent. per annum, and the large number of shares already subscribed for is a sufficient guarantee for the success of the new undertaking.—Queen Victoria-street, Oct. 24.

T. H. D. ALLEN, Managing Director.

CAMBRIAN MINES.

SIR,—Having noticed the disagreement between parties in this mine, and that now new directors are appointed, I shall be glad to know at what dates these gentlemen became possessed of their shares? From whom they purchased them, or for what purpose, remains to be enquired into by old shareholders, or any new party invited to invest. It is fair without rancour that justice should be done, and as an independent party having an interest in the Cambrian Mines I beg to hint that the above questions should be fully answered before another step is taken in the company's affairs.

ONE INTERESTED.

KILLIFRETH.

SIR,—I beg to endorse and support the few, but pertinent and sensible, remarks of "Distant Shareholder" in last week's Journal touching the advisability of the agents of Killifreth Mine giving, through your columns, for the interest and satisfaction of shareholders who, living at a distance from the mine, are unable easily to obtain intelligence as to its workings and progress, at least regular fortnightly reports. I have long since felt satisfied of the thorough integrity and efficiency of the management, and its due regard to judicious and economic working in so far as consistent with an intelligent test development of the mine, and I believe its worthy purser and secretary, Mr. J. Tregoning, to be "the right man in the right place." I am very greatly mistaken in my impressions if on having this matter brought before their notice they do not unhesitatingly accede to the reasonable request for regular reports, about which there can surely be no considerable drawback difficulty, since there are two agents attached to the mine.

Oct. 24.

ANOTHER DISTANT SHAREHOLDER.

KILLIFRETH MINE.

SIR,—Another distant shareholder fully endorses the pleasure it would give him to see reports a little oftener of this valuable mine. No doubt it tends greatly to support weak shareholders to see their property brought honestly forward. The old truism, "Good wine needs no bush," scarcely holds water in these days of rapid progress. The light should not be under the bushel. In the case of Killifreth reports methinks from a side wind which reached me via Cornwall that they are aware locally of the great value of the discovery, and are so far keeping it amongst themselves, for the shares are being rapidly bought by those true gaugers of a good mine—Cornishmen. Gloucester, Oct. 25.

TRUTH.

NEW GREAT WHEEL VOR.

SIR,—Being in the habit of reading the reports of our Cornish mines in the Mining Journal I was much surprised to see the report of the New Great Wheel Vor being worth 75*l.* per fathom at the shallow depth of 10 fms. 2 ft. from the surface. Having business in the district and a little time to spare I thought I would visit the mine. On my arrival I saw the agent, Capt. Cowling, at the time they were drawing a parcel of tinstuff to the surface. It was slabs of tin—I might say rocks of tin—too heavy for an ordinary man to lift. At my request the agent had pieces of the rocks bruised and vanned. I was greatly surprised to see the quantity of tin it yielded. Judging from the vann I should say it was worth all 75*l.* per fathom. Camborne, Oct. 25.

E. ORCHARD.

SHROPSHIRE LEAD MINES.

SIR,—You would understand from what I said last week that the Snailbeach Company are making preparations to use boring machinery on an extensive scale. It is very likely that they will make development of the west end of their mine towards Central Snailbeach, and it is generally believed amongst the miners that the rich run of lead ore formerly worked in that end of the mine has only made a throw more rapidly to the west; for it being familiarly known to all miners as the shale run, is not likely to cut out or come to an end, as it appears sometimes to do. We understand that something like 15,000*l.* or 16,000*l.* was spent at the Central Snailbeach Mine in sinking the shaft, buying and fixing machinery, and doing a little driving, and only something like 10 tons of lead ore was raised and sold. Of course, it is quite natural that many should condemn the mine; but it is in good position, and we think, with many others, that it highly deserves further development, which no doubt it will have, and make a good mine some day. A SHROPSHIRE MINER.

THE CALLINGTON MINING DISTRICT.

SIR,—The Callington district, as also the Tavistock, are indeed looking busy, all the mines, new and old, are being worked, and some look as if large profits will be made. It is also said that old Yeoland Consols is to be formed into a company and worked with spirit. There is no better sett in this district, but it is reported that 30,000*l.* to 35,000*l.* is asked as purchase money for a portion of the sett. Now, I cannot believe this, but if it is true and such a sum asked for what only cost a few hundreds it will be a failure, for 40,000*l.* is as much as the sett will bear, and ought to have 30,000*l.* working capital. If brought out at a reasonable price there is no better venture in the West of England, and should give large returns to the shareholders.

A TAVISTOCK MINER.

Tavistock, Oct. 25.

THE CALLINGTON DISTRICT, AND ITS MINES.

SIR,—Since my last there is a great improvement in the Trebartha Larn Mine, it is not only improved in tin, but the end driving in the hill will produce over 3 tons of arsenical mudic per fathom. This mine until within the last few months has never been wrought since the reign of Queen Elizabeth. It is a well known fact that up to that time mining was mere scratchings, but in the face of that, according to the records now held by the landowners, there was tens of thousands of pounds profit returned from the backs of the lodes, and there has been always an objection to grant for mining from that time until now. The present heir has not only granted on very favourable terms, but as been a purchaser of 100 shares. A great number of the 12,000 shares are held by some of the wealthiest landowners in the district, who intend holding as an investment, and as they have a hill where by following the lode they will be able to get about 90 fms. of backs; and as they have a river of water above them of ample power to work every kind of machinery requisite, I would strongly recommend the mine. Wheal Luskey lode is still of its former size and character, a splendid looking lode. Shares well worth buying at the present price. I will give some further report on these mines in my next.

I said in my last that Wheal Langford was about to be reworked, and I must congratulate the promoters on their success in obtaining the sett, as I know there were several parties in want of it. There are thousands of tons of the Wheal Langford lode now lying at the surface which were thrown away the last time it worked as waste

that will produce from 10 to about 30 ozs. of silver to the ton, that will pay well for working at an average produce of 10 ozs. to the ton. It is a recognised fact that the Spaniards are not to be excelled in the separation of silver from the matrix by any country, and as they have Mr. Nichols in the district, who has been in Spain for years, superintending the erection of their machinery, and Capt. Doble, who has obtained the heart of every kind of flux used by them, I have every reason to believe under their able management it will take but a few months to get great profits from the burrows alone, when that might go towards defraying the expense of machinery. I am glad to see so many gentlemen in our own district making application for shares, as it is well known that the Langford property, and about one mile east, has produced more native silver than any other part of England. I wish them every success.

Callington, Oct. 26.

JOHN BUCKINGHAM.

COAL AND TIN MINING.

The opening address for the session in connection with the Coal Mining Department of the Yorkshire College at Leeds was delivered in the Philosophical Hall on Wednesday by Mr. ARNOLD LUPTON, M.I.C.E., F.G.S.

Alderman TATHAM (the Mayor of Leeds), who presided, remarked that coal mining was an important and interesting, as well as hazardous, undertaking. Those who were employed as operatives in coal mining were entitled to have every provision made for their safety as well as to have liberal remuneration and short hours of labour. He hailed with pleasure the existence of a department in the Yorkshire College for instruction in colliery engineering and management, because the more scientific aid could be brought to bear on such an industry the better for all concerned. The lectures begin on Monday, and would be continued weekly for 30 weeks, at the moderate charge of three guineas for the series. They were well adapted for qualifying those who attended them to obtain certificates of competency as colliery managers or underwriters, or for other positions of responsibility. He hoped they would be largely attended and successful. (Applause.)

Mr. LUPTON then proceeded with his lecture—He stated that England had always been noted for its mineral wealth, and that whilst its size was only 1-600th part of the area of the land in the world, its mineral production, as measured by value, was about one-third of the total mineral production of the world; that the total tonnage of minerals raised in Great Britain was 48 per cent., or nearly one-half the total tonnage of minerals raised in the world. He then proceeded to compare coal mining with tin mining. The total value of coal raised in Great Britain was about 43 million pounds worth (43,000,000*l.*) per annum, equal to 97*l.* per head of the population engaged in coal mining; and the value of tin raised per annum in Great Britain was about 1,000,000*l.*, equal to about 62*l.* per head of the workpeople engaged in tin mining. The ore was found in the shape of tiny grains of cassiterite, or oxide of tin, distributed through a mass of stone in a vertical or nearly vertical lode. The appearance of a tin mine on the surface is not altogether dissimilar to that of some collieries. There are tall engine-houses both for pumping and winding and for working the man-engine. This man-engine is a machine for raising and lowering the men employed in the mine. At Dolcoath it works to a depth of nearly 500 yards. It is like a huge pump-rod, working up and down the shaft with a stoke of 12 feet. The men stand on steps on the rod, and every stroke lowers or raises them 12 feet. Every alternate stroke the men stand on a fixed platform in the shaft side. In this way more than 100 men may be going down a shaft and an equal number going up at the same time. The engine makes five or six strokes a minute, so that it takes 25 minutes to go down 500 yards. This is a great improvement on the old-fashioned method of clambering up and down the mine the whole distance on ladders; but still there is a great deal of ladder climbing to be done in most tin mines. At Dolcoath, which is the deepest tin mine in England, there is a depth of 300 yards to be climbed by ladders below the 500 level to which the man-engine delivers. At the bottom of this mine the water is as warm as new milk. The tinstone is very hard, and is blasted with dynamite. The holes are drilled by machines worked by means of compressed air. When the tinstone has reached the surface it has to be crushed in order that the tin may be extracted, and this is done by means of stamps. Each stamp has a hammer-head weighing about 700 lb. There may be 240 stamps at a large tin mine. Each stamp makes 60 blows a minute, and the whole number of stamps will crush about 200 tons of tinstone in 24 hours. When the stone has been crushed the tin is separated from the dirt by a process called "buddling," which depends for its action on the different specific gravities of the stone. The proportion of tin in the stone in some of the largest mines varies from 2 to 4 per cent.

The staff of officials at a tin mine is similar to that at a colliery. There is a committee, an agent or captain, and assistant captains. The miners work eight hour shifts, and are paid about 3*s.* a day. On the surface a great number of women and children are employed in dressing the ore. The women get about 1*s.* a day. In some of the mines near Redruth the lode is of great thickness—from 20 to 30 ft. This is all sent out, leaving enormous caverns. It is a very impressive sight standing on some platform to look up into these great vaults and notice the men climbing ladders far above, or working on little timber platforms, and then to look down and see a gang of men below making the caverns deeper still, and all of a sudden may be heard from some portion of the works at a little distance the discharge of blasts of dynamite, thundering through caverns like a discharge of artillery, and to feel the rush of air caused by the explosion, which is very likely to put out your candle and leave you in the dark, literally shaking till the battery has done. A short time ago the Cornish mines were nearly closed through the reduction in price due to the importation of foreign tin. This stimulated the English mineowners and miners to reduce the cost of production. This they have done to a great extent, partly perhaps by the reduction in wages, but principally by the introduction of machinery for drilling the rocks, and dynamite. A shot-hole 1 in. diameter charged with dynamite is as effective as one 2 in. in diameter charged with gunpowder, and costs a great deal less to drill. The effect of this and a great many other improvements to which the lecturer referred has been to reduce the cost of getting from something like 55*l.* to something like 35*l.* a ton, and to establish the fact that Cornishmen can compete with all other tin miners in the world, though he has to extract his tin from a depth in some cases of nearly half a mile, and foreigners find it near the surface. At the present time there is a profit of 20*l.* a ton to be made on every ton of tin oxide produced at the best Cornish mines. This compares favourably with the profit now made at the best coal mines, where the profit does not exceed 1*s.* to 1*s.* 3*d.* a ton. The lecturer referred at length to the points of difference between tin and coal mining, amongst others to the practice of Cornish miners in changing their cloths at the mine, and washing from head to foot after leaving the pit before they returned home. The lecture was illustrated with numerous diagrams.

Mr. W. E. GARFORTH, mining engineer, of Messrs. Pope and Pearson, Normanton, moved a vote of thanks to the Mayor for presiding. In doing so he remarked that in those days of deep mining—and he knew of one mine in Manchester no less than 936 yards from the surface—the difficulties were such as to require more than the practical rule of thumb which was made to suffice in former times. There was no question that many of the explosions in recent years had been owing to the use of gunpowder, and if the Government could be assured that there were some means by which coal could be got without gunpowder, no doubt its use would be eventually prohibited. By a better system of working, and by bringing the powers of nature to our help, we might yet be able to dispense with gunpowder. At any rate, many questions would have to be faced, for the consideration of which practical knowledge alone would no longer suffice for they required also such theoretical and scientific training as can be had at the Yorkshire College. (Hear, hear, and applause.)

Mr. WALTER ROWLEY, a member of the Council of the College, seconded the motion, and remarked that to a great extent it depended upon the measure of success which they were able to report whether the Drapers' Company, to whom they were indebted for that depart-

ment, would continue their liberal grant for its continuance. He, therefore, hoped that all of them would send as many students as possible to the lectures and classes.

The MAYOR having briefly responded to the vote of thanks, the proceedings concluded.

OUR GOLD SUPPLY—ITS EFFECTS ON FINANCE, TRADE, COMMERCE, AND INDUSTRIES—No. VI.

BY THOMAS CORNISH, Mining Engineer (late of Australia).

Author of "Gold Mining, its Results and its Requirements."

NEW SOUTH WALES.

Mr. Emmet, a gentleman of large experience in gold mining affairs, particularly in Victoria, one of the witnesses whom we examined, upon being interrogated as to his opinion of the mineral resources of New South Wales, says—"I consider the auriferous districts of New South Wales far larger than those of any other Australian colony, and as rich." So also Mr. Travers Jones, the manager of a mining company in this colony, and a gentleman who for years has been engaged in various mining undertakings in Victoria, New Zealand, and New South Wales, says—"There is already a very large extent of known auriferous country throughout those parts of the colony which I have specified as having been under my own personal observation, which would furnish scope for remunerative operation for generations to come." Mr. James H. Griffin, a gentleman who has been a gold commissioner in the colony, and who at the time of his examination by us was manager of a mining company, bears testimony also to the abundant mineral treasures this country possesses. He says—"I believe that, at all events as far as the Braidwood district is concerned, the auriferous resources of the colony are unsurpassed." There are other indications of mineral riches; both lead and copper have been discovered, precious stones have also been found.

To this testimony we will only add that of the Rev. W. B. Clarke, M.A., F.G.S., F.R.G.S. That distinguished geologist delivered an address before the Royal Society of New South Wales, on May 22, 1872, from which we extract the paragraph subjoined.

"Now and then we hear of fresh alluvial diggings, such, for instance, as those of Gulgong, which are in an extension of a field proclaimed many years since; but experience has shown that an increased and increasing resort to the crushing mill is influencing the minds of the mining community."

"That gold production is on the increase no one can doubt, and if prospectors will but go out into districts that about not far from the vicinity even of gold fields where no pick or spade has been employed, new ground will assuredly be found where reefs, as they are called, meet the eye of the traveller at almost every turn, and where there is every legitimate reason to infer that some will be productive."

"It is not too much to say that no sooner are we off the carboniferous areas, rich in coal and its associate minerals, than we are in a region in which are tracts where gold, and copper, and lead abound. And passing from the sedimentary to the plutonic rock, we can discover granites which, however barren externally, are within frequently charged with the valuable ore of tin. So that the three great geological divisions of our colony are replete with the mineral treasures that are practically inexhaustible."

"It is, perhaps, difficult to assign any strict measurement in superficial area to the actual amount of land capable of furnishing present proofs of this, because, as we well know, metals are local, and not universal."

"During my last visit to different parts of the western district I not only saw the operations that are going on, but passed over many miles of country in which the rocks that belong to a golden area yet remain in their original condition, and will so remain till some fortunate adventurer stumbles by accident on a tangible encouragement."

The Mining Department of the New South Wales Government has shown a marked improvement in the general working of that important branch since it has been under the able superintendence of the Under Secretary for Mines, Mr. Harrie Wood. That gentleman has infused the same energetic spirit throughout the department for which he was famed while Mining Registrar in Ballarat. In the Annual Report of the Mines and Mineral Statistics for the year 1880 a vast amount of valuable information has been carefully compiled, which will be of great interest to all holding mining, landed, or other properties in that colony.

The reports of the wardens, mining registrars, and surveyors of the various gold fields are all of an encouraging character, tending to show the permanent and payable nature of the quartz reefs, as also extensive discoveries of alluvial deposits. The general tenor of these reports goes to show the enormous area of country there is available for legitimate mining enterprise, and the profitable investment of capital in the production of gold.

There has been a large increase in the application for gold mining and mineral leases during the past year, and a marked improvement in mining enterprise is being gradually infused that will have a beneficial effect on the increased production of gold and mineral wealth. Although there is no record of the quantity of purchased land (freehold) upon which mining operations are being carried on, it is known to be large and constantly increasing. The following table shows approximately the area of land (other than purchased land, and land occupied under miners' rights and mineral licenses) held in December, 1880, for the purpose of mining for gold and other minerals:—

	Area, Acres.	Value produced in the last 10 years.
Gold mining lands.....	4,700	£ 9,501,684
Antimony ".....	862	11,830
Alum ".....	20	—
Asbestos ".....	80	323
Asbestos and copper ".....	20	—
Bismuth ".....	165	—
Coal ".....	70,246	7,464,225
Coal and shale ".....	10,960	—
Copper ".....	2,632	2,667,200
Copper and lead ".....	40	—
Iron ".....	20	564
Marble ".....	40	—
Minerals not stated ".....	437	—
Mixed minerals ".....	—	10,127
Lead ".....	—	3,400
Silver ".....	550	158,466
Silver and copper ".....	220	466,979
Shale ".....	85	—
Slate ".....	199	—
Sulphur ".....	40	—
Tin ".....	18,765	3,615,458
Total	110,081	£23,880,256

It will be seen that New South Wales not only possesses a large area of auriferous country as a field for profitable investment in gold mining; but in minerals other than gold it is also exceeding rich, the area of which covers over 12,000 square miles of country. With such an inexhaustible supply of mineral wealth, and its enormous area of pastoral and agricultural country, this colony has a great future before it, and presents special attractions for the investment of capital.

The approximate area of auriferous country as given in the last returns is stated to be 35,500 square miles, and on this vast territory of gold country there are only 11,654 Europeans and 1791 Chinese miners working, or about one European miner to each square mile. No better evidence could be given of the room for an increased population of gold miners and the ample field for the judicious investment of capital, and the permanent increase of the supply of gold in the colony of New South Wales.

BRITISH FOSSIL CEPHALOPODA.—The first part of this work is now in the press, embracing Silurian Cephalopoda, with introduction by Prof. J. F. Blake, M.A., F.G.S., of University College, Nottingham. The work, which will be published by Mr. J. Van Voorst, of Paternoster-row, is undertaken by the assistance of the Government Grant for Scientific Research, will be issued in a quarto form, uniform with

they began digging for gold in a very unpromising locality. It seemed a very hopeless task, but the two men worked on steadily, standing close together. Deeson pried his pick in some hard brick-like clay, around the roots of an oak tree, and brought up fresh earth, and testing away the strata from the surface of the ground. He aimed a blow at the clear space between two branches of the roots, and the pick, instead of sinking into the ground, rebounded, as if it had struck on quartz or granite. "Confound it," he exclaimed, "I've nearly broken my pick! I wish I had broken it, if it had only been over some nugget." A minute afterwards he called out to Oates and told him to come and see what "this" was. It was a mass of gold cropping several inches out of the ground like a boulder on a hill. As each successive portion of the nugget was disclosed, the two men looked at it in amazement and awe. Its size. It was over a foot in length, and nearly the same in breadth. The weight was so great that it was difficult for the two men to move it. However, by dint of great exertion they succeeded in carrying it down the hill to Deeson's cottage, where they commenced to inspect their wonderful treasure. It was completely covered with black earth, and so tarnished in colour that an inexperienced person might have supposed it to be merely a mass of auriferous earth and stone. But its weight at once dispelled all doubt on that point, for it was more than a heavy iron plate. A piece of wire was slipped under the weight, and raised among Deeson's family. The wife piled up a huge fire, and Deeson placed the nugget on top, while the rest of the family stood around watching the operation of reducing the mass to the semblance of gold. All through the Friday night Deeson sat up before the fire, burning the quartz which adhered to the nugget, and picked off all the dirt and debris. This was so rich that on being washed in the puddling-machine it yielded 10 lbs. weight of gold. Meanwhile Oates had produced a raft to convey the nugget to town, and on the Saturday morning the two men set off for Dunsmuir. Due to the weather, they were to the Lewiston Chartered Bank, where it was weighed and found to turn the scale at 2288 ozs., or nearly 2 cwt.; and the sum of 10,000, was placed to their credit in that institution.

SCOTCH MINING AND INDUSTRIAL COMPANIES
SHARE MARKETS.

WYNAAD PERSEVERANCE ESTATE AND GOLD MINING
COMPANY.

The report dated Oct. 26 says the mining outlay was about 3500*l.*, including the cost of machinery (Cook's pulverizers, &c.), buildings, roads, and salaries. The legal charges, classified under the head of preliminary expenses, are those of the company's solicitors for completing purchase, both in London and India, and include the stamp duty payable to the Indian Government. The capital has been fully paid up, and the available cash in hand and invested at that date amounted to about 24,500*l.*, out of the 30,000*l.* remaining over after paying the returns on the advances of 6,000*l.* in cash and shares. Actual mining operations commenced about June 1, when Capt. Prout and his Cornish staff set to work. They arrived in good health just before the monsoon burst, and have continued well and at work ever since. The extracts from the report of the mining engineer, Mr. J. J. Cooper, dated Aug. 25 last, and from the report of Mr. Robert Stanes, of Connor, the company's agent in India (who personally inspected the property) dated Sept. 26, which are annexed. Cook's foreman, now in India, has just returned on the estate to superintend the erection of the pulverizers, &c., and in May, when the heavy rain and the start of the monsoon trial crushed the results of which will be made public. One of the most favourable features of the mining is the cheapness of labour, the wages paid to the Canarese coolies, who are becoming very expert, being only six annas, or, at the present rate of exchange, about 7½*d.* per diem. This company is also exceptionally favoured in having an unlimited supply of firewood for the engines, which can be cut and brought down to the works at the rate of 4*s.* 2*d.* (2½ rupees) per ton. The necessary buildings are all either completed or in a forward state, and considering the short time that has elapsed since operations were commenced, there is every reason to be satisfied with the progress

With reference to the estate part of the business, the directors feel that they can congratulate the shareholders. The property contains, which few others in the W. Va. do to the same extent, a most valuable forest, with a large supply both of timber and undergrowth, and arrangements are going on for felling and sawing timber, both for the company's own use for mining and other purposes, and ultimately for sale to other companies. This may prove a source of additional revenue.—Coffee: There are about 150 acres now planted. This year's crop, owing to deficiency or rain during the blossoming season, will not be good; but the trees are healthy, free from leaf disease, and capable in a good season of producing about a 40-ton crop, which would leave a good margin for profit.—Cinchona: Cultivation is being actively carried on in this branch, and up to date some 89,000 succubras and 950 Cal. Ledgeriana have been planted out permanently, and next season another 20,000 to 30,000 succubras will be planted out from the nurseries on the property. These trees will in the course of four to five years produce a large income—say, at the rate of 1 lb. of bark per tree, at 2s. per lb., about 150,000 trees, 10,000⁰ per annum. The survey of the property has not yet been completed; the acreage, however, may be taken to come up to, if not exceed, that stated in the prospectus. The directors have every reason to continue to have confidence in the company and its ultimate success, and no efforts will be spared on their part to promote the interests of the shareholders.

Dr. BALANCE SHEET FROM SEPT. 11, 1880, TO MAY 31, 1881.		
To capital—80,000 shares, at 1 <i>l</i> . each, fully paid	.....	£80,000 0 0
Dividends, interest, profits, and transfer fees	.....	722 9 7
Sundry creditors	.....	638 17 8
Cr.	Total	£81,361 7 5
By leasehold property—In the South-East Wynaad, Madras Presidency, with mining rights, purchased for	.....	£50,000 0 0
Outlay on mining account—including machinery and tools, cost of carting, bullock making roads, salaries, and wages	.....	3,442 18 0
Outlay on chena plantation—Expenditure to date	.....	151 0 0
Timber (outlay on sawing, &c.)	.....	272 10 6
Office furniture	.....	125 9 9
Coffee crop, 1880 and 1881—Loss	.....	163 19 2
Outlay on cultivation of coffee crop, 1881 and 1882—Current expenses to date	.....	931 10 5
Preliminary expenses—Law costs, London	.....	£355 11 10
Law costs, India	.....	503 4 2
Sundry expenses—London—Directors' fees, salaries, rent, office expenses, &c., stationery, and printing	.....	1,025 18 0
Temporary investments	.....	17,892 11 4
Cash on hand—At bankers	.....	£1,703 6 4
National Discount Company, at call	.....	3,000 0 0
Petty cash	.....	4 8 4
Remittance in transit to India	.....	1,600 0 0
At bankers and agents in India	.....	831 5 1
Sundry debtors	.....	6,538 19 9
		57 13 8
Total		£81,361 7 5

Extracts from the report of Mr. J. JENKINS COOPER, mining manager, Aug. 29, 1901. Mining Operations: Until June, the date when our captain and European miners arrived, merely prospecting work was done. On the western part of the estate two new reefs were discovered—the Hall's Reef and Adolphus Reef. We made communication between two of the old shafts at the depth of 70 ft. The indications were quite sufficient to make this my main point of operation; therefore, in June I started our Cornish timbermen to enlarge and timber one of the old shafts. We are enlarging it 8 ft. by 5 ft. within timbers, so that it will be ample for winding with cages, and if necessary to put in a small pumping lift. The shaft has been enlarged and timbered to a depth of 56 ft.; I estimate it will be completed to the required depth—72 ft.—in three weeks hence. We shall then clear out the old workings to the point where the ancients have left off, and drive on the lode. In July we commenced our main west tunnel; this is to be driven direct to the shaft—distance, 190 ft. It will intersect any lodes that may exist in this part of the tunnel, and the quartz will be taken out by the quartzies running down to the mill by a tram—that is, to our future mill site. I am erecting COPE'S machine close to the mouth of the tunnel. Good progress has been made in this tunnel, 77 ft. having been driven since it was started in July.

When the shafts communicated with the tunnel the ore will be trammed out of the mine, through it to the mill. It will save the expense of all winding and pumping machinery to this depth. An underlie shaft was sunk on the Adolphus Reef to the depth of 15 ft. The lode is 4 ft. wide, and the quartz sufficiently rich to pay. There must be good lodes in this mountain for the ancients to have sunk so many shafts and worked so extensively. Although it will take a long time to develop the mines, before we get a sufficient supply of quartz for continuous crushing with a stamps battery it would be well to be looking out for a 20-hd battery; but it should be one with the latest improvements, and if it could not be got in England should be ordered from Australia. We shall have to work with steam power; but fuel on this estate is cheap, as it can be taken to the mill at 2½ super per ton. Buildings. The following houses have been well and economically built, and the able and industrious Mr. Adolphus Wright during the past six months:—Captain's house, with mines offices attached; miners' quarters; my assistant's and clerks' bungalow; storehouse and stables. The new blacksmith's, carpenter's, and fitting shops have just been started.

Roads: A new road has been made, connecting the mill site with main road. Another new road connecting the eastern with the western workings, and a road a mile long into the company's forest.—Forest: In this magnificent forest we have every class and quality of timber. At present we are only supplying the South East Wynaad Company, but as most of the gold companies here have no timber, they would only be too glad to be supplied by us, and at current prices

Labour: I am pleased to inform you that I can see a marked improvement in the work of the men employed at the Canadian mine. They are doing a great deal of work much faster than I anticipated they would, and I really think we shall make something of them. I am sinking No. 2 shaft for Adolphus Reef, solely with Canarese and an East Indian. I think we shall make useful men of these latter.—Summary: Considering this company only started work so recently, I think very satisfactory progress has been made. The preliminary work is all but completed—buildings, roads, surface prospecting, &c., and the property is being put in a way to be more fully developed. Looking at the immense amount of work done by ancient workers, I feel confident it must turn out to be a good property.

Extracts from tire report of Mr. ROBERT STANES:—
 Sept. 26.—I visited this company's property on the 14th and 19th inst. "Coffee
 The estate was being cleaned of weeds, which always make a great headway dur-
 ing the monsoon. Pruning and handling had been well cared for, and the trees
 were in good heart, with very little signs of leaf disease.—Cinchonas; These are
 coming on well, and are making a good show. The planting this year has been
 carefully done, and the plants look healthy. In three or four years the estate
 will have altogether a different aspect, as the cinchonas planted amongst the
 coffee will be some 12 to 15 ft. high, and the coffee, too.—Forests and Timber
 Good work has been done here. Besides supplying both this and the South
 East Wynnad Estates and Gold Mining Company with building material and
 timber for tunnels and shafts, Mr. Wright has a good stock in hand, and any
 quantity of firewood. I think that firewood might be sold at a handsome profit

A NUGGET OF GOLD.—In the early days of the Dunolly gold field writes the author of "A Glance at Australia in 1880," two working miners named Oates and Deeson, after experiencing many vicissitudes of fortune, found themselves in the argot of their class, "dead broke." Their credit was exhausted at the neighbouring store, and one of them was actually in want of bread. In sheer desperation

to other companies. The cost to the company would allow a sale at Rs. 3 per ton with a reasonable margin.

Buildings.—These present a picturesque appearance, and I must congratulate Mr. Wright on the speedy and efficient manner in which he has done his work. The miners' house, office, and Mr. Gould's house are well built and very comfortable, giving satisfaction to all concerned. When completed a photograph will be taken of all these new buildings and sent to you.

Mining.—Not being a miner my opinion is, of course, of little worth, but your directors may like to know what I thought of the work done. Considering that this work was only commenced, I believe, in June I am astonished at the progress made. I went down the 70 ft. shaft with Mr. Cooper and Capt. Prout. It is a heavy piece of work, and is beautifully timbered. At the bottom there is a communication with the other ancient shaft, which I understand will very soon be opened out, and the reef at which these ancients worked will be exposed.

Another shaft, now 24 ft. deep, is being sunk at another spot, to cut, I believe, the Adolphus reef, and this is most interesting, having been entirely done by Chinese men, without any assistance from the Europeans. The timbering of this shaft is very neatly done, and I was surprised to find that this also was the work of these men. Captain Prout showed the men how to do the first piece, but the remainder has been entirely done by the Chinese, at six annas a day! This is most encouraging, as it points to cheap mining work. I also went into the tunnel, which is 300 ft. below the shaft. This is also well timbered, and is some 120 ft. into the mountain, and does credit to all concerned. The mill site is a short distance from the mouth of the tunnel. Mr. Cooper is to be congratulated on the able staff of men he has under him, who do their best to carry out his orders, and he must be pleased to see the work progressing so favourably and rapidly.

ASIA MINOR MINING COMPANY.

Mines of Lidjary, Sept. 30.—Extract from report for August and September, 1881. As mentioned in our No. 22, of the 21st inst., Capt. Munscheid arrived at these mines on the 11th ult., and has since then done the work described therein.—1. Savalan's Lode.—New Adit Level: About 45 metres, or 147 ft., under level No. 1 (Arthur), had been commenced on the 22nd ult. With the view of accelerating the work this level is being driven to the left of the lode in soft ground. Distance driven, 8 metres, or 4½ fms.; price of tutwork, s.p. 90 per metre, or 27s. 9d. per fathom.—Level No. 1 (Arthur): In this gallery rails have been laid the entire length—about 210 metres, or 700 ft. The exact spot for raising the shaft to levels Nos. 2, 3, 4, and 5 will be fixed to-morrow, and this work at once be taken in hand. The lode in this level is about 21st inst. been struck at five different points—inclination 70° to 80° south-east. Assay of ores as follows:—Sample No. 1, 75 per cent. of lead and 64 ozs. 6 grs. of silver; No. 2, 76 per cent. of lead and 65 ozs. of silver. In No. 2 level (Hamburg) work was recommenced on the 22nd ult., but owing to the hardness of the rock the driving will be done in the soft, outside of, but in contact with, the lode. Distance of tutwork, s.p. 100 per metre, or 30s. 10d. per fathom. The lode will be examined up to the hanging roof every 6 or 8 metres; only 4 metres, or 2½ fms., have still to be driven here to enable us to commence the shaft up and down towards No. 3 level (Petri) and No. 4 level (Arthur). Whilst this is being done the level will continue to be pushed forward. Thickness of lode, 1½ to 2½ metres, or 5 to 7½ fms., containing 30 to 40 centimetres (11 to 15 in.) of mixed, with some pure ore. The extraction of ores will be shortly taken in hand. In No. 3 level (Petri) work was commenced on the 22nd ult. At the end of this level (breast) and bottom of Savalan shaft (point No. 7) the passage has to be enlarged for a distance of about 10 metres, the one hitherto existing being only sufficient for unwatering the upper levels, and does not allow the transport of minerals. After this is done the driving at the breast can be recommenced, in all probability, in 1½ to 2 months. We shall begin with the extraction of ores from the level in day or two.—No. 4 level (Savalan): Here the ground is being broken, levelled, and prepared for extending the roadway right up to the breast end at No. 7, a distance of about 80 metres, or 260 ft. This will take about one month. Twelve hands are at work below this level with timbering and strengthening the shaft. This will take four months, when the different places therein will be driven and worked for ores.

It is intended to continue driving the Savalan shaft from point B upwards to No. 7 level (Hadji Harus), and also to commence another shaft from point 7 (breast of Savalan level) upwards to No. 9 level (Michael). Capt. Munscheid, however, begs to suggest that for the present it would answer best not to work the proposed shaft from point B, but in place thereof to commence a rolling shaft upwards from point A, distant about 100 ft. west from point B. His reasons for proposing this project are the following:—1. This shaft could be finished in half the time the other would take; 2. The expense would be reduced one-half; and 3. A higher level (No. 8 Genosse) would be reached. An objection to the construction of this shaft is the necessity of tramming the ores from A to B. This distance, however, is but 100 ft., and the wages for this work are but a small item compared with the advantages gained. Should Capt. George approve of Capt. Munscheid's project please let us know. No. 5 level (Duriedel) is being driven since the 27th ultimo; breadth of lode 1½ metre (about 1 ft.), with 25 to 30 centimetres lead ore (8 to 12 in.). In No. 6 level (Duriedel) the driving ahead will commence in a day or two; lode the same as at No. 5 level. No. 7 level (Hadji Harus) requires coggling and timbering, which will take a fortnight before the work at the breast (showing impregnations of lead) can commence. Below this level, at No. 15, the lode shows a width of 1½ to 1½ metres (about 5-6 ft.), containing 20 to 25 centimetres (8 to 10 in.) of mixed and pure ore. In No. 8 level (Genosse) work commenced a week ago; lode 2 metres (about 1 ft.), with 10 to 15 centimetres (4 to 6 in.) of ore; price of tutwork, s.p. 140 per metre, or 43s. 3d. per fathom. The heaps of stuff at the entrances of this level having been ascertained to contain a considerable quantity of ores, a number of boys have been set to picking it. We thus expect to obtain about 100 tons of ore. An assay made shows 70 to 75 per cent. lead, with 33 to 34½ ozs. silver. In No. 9 level (Michael) two hands are driving the lode about 1 metre, with 15 to 20 centimetres (6 to 8 in.) of ore, mixed and pure; tutwork price, s.p. 100, or 30s. 10d. per fathom.

2.—Papa Sava lodes, situated about 1500 metres west from mouth of Savalan level (No. 4) for further examination of these important lodes, two levels have been commenced by four hands each (for day and night), and a third level will be opened in a day or two. Rate of tutwork, s.p. 110 and 90; average s.p. 100, equal to 30s. 10d. per fathom. Width of lode 2 metres (about 1 ft.), with 30 to 40 centimetres lead ore (12 to 14 in.). After some further distance has been driven assays will be made from these ores; our experience proves that assays made from ores taken from the outcroppings are no criterion as to their value and contents of silver. A sketch of this part of our mines will be forwarded to you in due time.

3.—Production: From the above report it will be plain that a regular production of ores (owing to the work done, and still to be done, in the shape of cleaning, repairing, coggling, timbering the shaft and levels, the constructions of tramways, &c.) could not yet be commenced with, nor can this be done to its full extent until the mine has been put into regular working order; this you will have noticed will take from 14 days to four months, in the meantime every exertion will be used to bring to bank as much ore as practicable, always keeping in view and taking care that the mines do not suffer thereby. Up to date about 150 tons of ore have been brought to bank, estimated to contain 40 to 45 tons of merchantable and some pure ore, the latter to be prepared by hand for shipment in spring.—J. W. H. ESCHERICH (General Manager), F. F. C. MUNSCHIED, Agent.

IMPORTANT CASE TO COLLIERY OWNERS AND MINERS.—Mr. W. T. Greenhow the Judge of the Wakefield County Court was engaged for about six hours, on Tuesday, in hearing a case of considerable interest to colliery owners, miners, and others. The plaintiff in the case was Joseph Hall, miner, Normanton, and he sued the New Sharlston Colliery Company for 200l. compensation for personal injuries which he alleged he had sustained whilst attending to his work in a pit belonging to this company, who employ between 800 and 900 persons. The action was brought under the Employers Liability Act of 1880, and was the first case in this district under that Act. On Monday the plaintiff went to work on the night shift at the company's collieries, and was employed in the fourth bank along with three men, named Henry and Isaac Bendall, who were brothers. The roof of the pit is what is known as tender, and, therefore, props were set in order to prevent it from falling upon the men and injuring them. Three props were set near to the place where the plaintiff was working, one of which, a long prop, rested on a solid foundation, but the other two were short props, and instead of being placed on a solid foundation were placed upon some loose dirt which had accumulated at the spot, and practically they were useless as supports. Between one and two o'clock in the morning the plaintiff was directed to remove the long prop, and whilst he was doing so a portion of the roof fell upon him, and he was much injured. When the plaintiff spoke to George Barstow, the night deputy, about his injuries, Barstow told him that if he knew who had set the two short props in such a position he would have fined him or sent him to prison, as in his opinion it was a complete man-trap.—Mr. Rhodes, for the defendants, stated that the requisite legal notice of action had not been given, that it was customary to use short props in the pit; it was quite proper, and, in fact, the seam of coal could not be worked unless such props were set. He also contended that no specific directions or instructions were given to the plaintiff, who caused the roof to fall by going about his work in an improper manner; and, therefore, it was contended that there had been contributory negligence on the part of the plaintiff.—Witnesses having been called on both sides, his Honour said he should give a verdict for the defendants, because he was satisfied it was usual to use short props, and it was clear to him that the accident had happened through the plaintiff's own negligence in not having built the pack close up to the prop before he drew it out. He was satisfied that the short props had not had anything whatever to do with the accident. With respect to the cost, his Honour advised the company to pay their own costs, though he declined to make an order to that effect. He also remarked that he thought the company might have paid the plaintiff some compensation, instead of allowing the case to come into Court.

COMPANIES REGISTRATION.—The stamp duty on companies registrations in the late financial year amounted to 26,275l. 14s. 2d.

IMPROVED AIR GAS COMPANY (Limited).—A petition for winding-up has been presented to the High Court of Justice.

HOLLOWAY'S OINTMENT AND PILLS.—A frequent cause of gout and rheumatism is the inflammatory state of the blood, attended with bad digestion and general debility. A few doses of the pills taken in time are an effectual preventive against gout and rheumatism. Anyone who has an attack of either should use Holloway's ointment also, the powerful action of which, combined with the operation of the pills, must infallibly effect a cure. These pills act directly on the blood, which they purify and improve. Having once subdued the severity of these diseases, perseverance with the ointments after fomenting the affected joints with warm brine, will speedily relax all stiffness and prevent any permanent contraction.

Meetings of Public Companies.

THE ELECTRIC LIGHT AND POWER GENERATOR COMPANY.

An extraordinary general meeting of shareholders was held at the City Terminus Hotel, Cannon street, on Wednesday, Admiral Sir EDWARD AUGUSTUS INGLEDEN, C.B., D.C.L., F.R.S., in the chair.

Mr F. H. LONDON (the secretary) read the notice convening the meeting.

The CHAIRMAN said—Gentlemen, although the powers which the Articles of Association confer upon the directors of the Electric Light and Power Generator Company are sufficient to enable us as a board to deal with the matter for which you have been called together, we have, nevertheless, thought it would be more courteous to you, and more satisfactory to ourselves, to invite you formally to give your sanction to the proceedings of which you have received due notice. After long and mature consideration, and not until we had satisfied ourselves of the expediency of the measure, we have entered into a provisional contract for the purchase of a group of American patents, which include the now well known Maxim incandescent lamp. It is this provisional contract which we ask you this day to confirm. The negotiations which we carried on with the vendors extended over some months, and during that period every diligence was used by your directors not only to assure themselves of the value of these inventions, but the best professional and legal advice was obtained to ensure the validity of the patents. The result has been that, notwithstanding the delay, we have largely profited in a pecuniary sense, for we have now provisionally concluded a contract on much more favourable terms than was at first contemplated. The price which has been accepted is 54,500l., of which sum it will be open to us to pay 12,500l. in shares. In these purchases are included all the rights for India and our colonies, with the exception of Canada. During the period of what by some has been considered vexatious delay, the directors have caused long and exhaustive experiments to be made with each form of lamp and dynamo-machine for which they were in treaty, and this has resulted in confirming them as to the absolute necessity of now finally concluding purchase. It must not, moreover, be supposed that in the meantime the business of the company has been at a standstill. On the contrary, the American company with whom we were in negotiation for the purchase of the patents have during the whole period of the negotiations given the company the dynamo-machines and the different kinds of lamps manufactured by them. These have been applied by the Electric Light and Power Generator Company for carrying out various contracts which they had entered into, and occasionally, when thought advisable for the interests of the company, machines and lamps had been utilised to exhibit our system of lighting public buildings on public occasions. Although these have given any immediate and remunerative return they have been highly beneficial as advertisements, and your directors are able to trace to these occasions several of the applications and some of the orders given to the company to supply their apparatus, and this especially to the orders now being completed for one of Her Majesty's newest and largest iron-clad ships. (Hear, hear.) Patents for the Indian Empire and for several of the most important of the British colonies are now secured, and the company is in actual treaty with reference to granting concessions both abroad and at home. These it will be readily understood when completed will tend to relieve the company of large responsibilities, and at the same time result without any doubt in an immediate, large, and ready-made profit. I will now move the following formal resolution:—"To confirm the agreement dated Oct. 8, 1881, and made between Messrs. J. O. Griffiths, of New York, in the United States of America, of the one part, and the Electric Light and Power Generator Company (Limited), of the other part, being an agreement for the purchase by the company of the Maxim, Nicholls, and Weston patents upon the terms therein mentioned. (Applause.)

Mr. MALCOLM LOW, J.P. (a director): Mr. Chairman and gentlemen, I have been asked, and have consented with great pleasure, to second the resolution which we are to-day asked to adopt, and in doing so I feel that I shall not need to take up very much of your time and attention, since the case has been put before us clearly and fully by the chairman; and I have no occasion to say more than that which I have to say may be advantageously grouped under the natural headings which present themselves to the mind of any prudent business man who should be contemplating the purchase for his own self; the first the things to be bought; and, secondly, the price paid for them. With regard to the things we intend to buy, they consist mainly of the Weston series of patent, which consists of dynamo machines, and are lamps mainly available for lighting streets and large buildings, and the Maxim series of patents, consisting of dynamo machines, regulators and lamps for the incandescent system of lighting. As regards the former, I might point in the way of practical success already achieved, to the large number of lamps carried out in New York and the other large American cities. I would also ask attention to the fact of a grant of a silver medal for this system at the recent Exposition in Paris; and I would also invite the attention of our shareholders—I dare say many of them have already seen them—to these lamps in their working, and where their merits may be judged of in London, in such places as Messrs. Maples' establishment, in the Aldersgate Station of the Underground Railway, all along Queen Victoria-street, and in other places. As regards the latter, we can point to conspicuous and distinguished success in the large cities in America; we can point to the award of a gold medal of honour at the recent Paris Exposition, and I dare say many of the gentlemen here present have themselves seen and admired the beauty and brilliancy of these lamps in the recent exhibition in the Euston-road, in Mr. Faure's present establishment for the adoption of secondary batteries to incandescent lighting opposite Charing Cross Station, in the recent exhibition we had in Warwick House, and now in our own factory, and in Mr. Faure's exhibition that before alluded to. I might mention also a matter which we heard only yesterday—that these lamps had been selected for the footlights and stage at the Paris Opera—(hear, hear)—and I need hardly tell you that the stage and footlights are the important lights of the whole theatre. Again, perhaps the superiority of these lights is in some degree attested by the fact that in the exhibition of Mr. Faure at Charing Cross, Mr. Faure for a long time tried various systems; he is at present using only the Maxim system, a point which undoubtedly testifies to the superiority of this system of lamp. I have not the least wish or thought of saying a word against any other system of incandescent lighting, but this I may venture to say, putting the claim mildly, that the Maxim system of incandescent lighting is inferior to no system of lighting yet brought before the public. (Hear, hear.) Now, as to the price, the Chairman has told you that it is 42,000l. in cash, and 12,500l. in cash or shares, and it will be for you to consider whether this sum of 12,500l. should be paid in cash, and that by increasing our nominal capital we should pay it in shares. We feel, gentlemen, that we have no cause to apologise for the largeness of the price to be paid. Quite the contrary; we feel that we have secured a most valuable bargain. I will not allude to the length and anxiety of our various negotiations. I prefer rather to speak only of their successful results; but on this head I see present one of our largest shareholders, and if he will permit me to allude to him by name—Mr. G. P. Harding—I should like to make this opportunity of publicly thanking him on the part of the directors for the ardour, zeal, and ability which he has shown throughout these negotiations—(hear, hear)—for to him must be attributed a very large portion of the success achieved. (Hear, hear.) I must not forget to lay proper stress on a fact which the Chairman has stated—that is, the exclusive privileges conferred with regard to India and all the British colonies, except Canada, and the terms also secured of sharing in all the advantages of prospective inventions which may be made by the vendors within a certain term of years. That is a most important point, and amongst this at present unfulfilled business, I may, perhaps, without violating any confidence, allude to the possible attainment of a secondary battery which we hope to import from Mr. Faure. I would like to say also that arrangements have been made in the meantime securing a supply of all the plant, including the Maxim lamps, from America, and other arrangements have been made whereby we shall have sent us skilled workmen who will very soon put us in the position of being able to manufacture these lamps to a practically unlimited extent ourselves. (Hear, hear.) A political authority, gentlemen, or some note has told mankind generally never to prophesy unless you know; but with regard to the success of this system of the Maxim incandescent lighting, it is because we do know that we venture to prophesy. (Hear, hear.) With these few words I will ask you to allow me to second the resolution which has been moved by the chairman. (Applause.)

Mr. WILLIAM ABBOTT: Mr. Chairman and gentlemen, when I first associated myself with this company I always felt that there was a great want in not having secured a patent for incandescent lighting. It was all very well to light streets. We have succeeded in lighting Queen Victoria-street and Southwark Bridge, and I believe our light is generally admitted to be the finest light in the City of London—(hear, hear)—but we, as a commercial company, desire to work at a profit. It had considerable transactions, or rather negotiations, in connection with companies with which I have been associated, with municipal bodies, and have always found that municipal bodies—the engineers and lower strata of the organization of these municipal bodies—have been most difficult people to deal with. (Applause.) You never come in contact with them and benefit to the capital you represent, and therefore it is absolutely essential that this and all other electric lighting companies should have associated with them as part of their system—that means of lighting, not only public buildings, but private houses. (Applause.) That is the business that will pay. Then, as regards the negotiations. As soon as I was impressed with this view, I entered into negotiations with one of your directors, and impressed upon him that this was all-important; but we felt that the prices which the patentees were asking for patents, the value of which had not been thoroughly demonstrated, were excessive and more than any company ought to pay. The result is what you have just heard from the Chairman. The negotiations have been carried on for some time, and these gentlemen have somewhat moderated their terms, to your very considerable advantage. I think 120,000l. was asked for these patents at first, but owing to my worthy friend here (Mr. Harding), who is a large shareholder and is deeply interested in the welfare of the company, the arrangements have been made which you are asked to sanction to-day. You may think it presumptuous if I give you a word of advice, because, generally speaking, gratuitous and irresponsible advice is of very little value; but we have now arrived beyond the experimental stage of electric lighting. A considerable amount has been spent by other companies in demonstrating the value of lighting not only large places but private houses and therefore I think we need not spend any further money in experiment. We now desire you to work at a profit, and I would appeal to the shareholders in the company not to press you too closely with reference to contracts which are pending. They may rest assured. I know pretty well what is going on, and they may take it from me that they are very highly satisfactory—(applause)—and the less discussion we have the better. While there is the keen competition that there is, it is as well that we do not press you too closely in asking what

you are doing at the present. With regard to competition, it would be very well now that the companies should combine, as has been arranged, with regard to telephones, and agree on fixed prices together, on the same principles as pooling rates in America. (Hear, hear.) Such an arrangement would be as good for other companies as for us. We have only four incandescent lamps in existence: the Maxim, which we think the best—but we always think our own swan the whitest—the Swan, the Lane Fox, and the Edison. London alone is enough to absorb all the work these companies can get for many years to come; but there is not only London, but we have got Liverpool, Glasgow, and various places. It is easy for directors who have their shareholders' capital to go on to compete for business, but there is no earthly necessity for us to do so, and I hope with the diplomatic talents and vast experience of yourselves and your colleagues, you will prove to the boards of the other companies that it is as much for their interest as for ours not to compete. (Applause.)

Mr. BLADES asked what was the distinctive difference between the Maxim light and the other incandescent lights?—Mr. Moxon read a rough translation from an article in the Dix Neuvieme Siecle, which spoke very highly of the experiments made with the Maxim light in Paris.

Mr. J. O. GRIFFITHS asked whether it had been proved that the expenditure they were asked to sanction would increase the income of the company?

A few other questions having been asked, the CHAIRMAN, in reply, said that undoubtedly new apparatus and machinery would be constantly coming forward, for the science had not reached perfection yet; but the shareholders would not wish the company to stand still in the meantime. (Hear, hear.) They had a lamp which had not yet been seen in use, which would burn for 16 hours without touching. The lamps of every system occasionally flicker, more or less, but this would probably be remedied in time. He agreed with Mr. Abbott with regard to there being no necessity for competition, and expressed the hope that mutually satisfactory terms would be come to between the companies. The Maxim light was more stable, and would burn for a greater length of time than the other lamps.

Mr. W. CROOKES, F.R.S., also adverted to the superiority of the Maxim system, and said that it had been tested in Paris up to 1500 candles. If the company could light a square mile of London, including the houses, they could do so at the same price as the gas companies, and leave themselves a good profit.

The CHAIRMAN added that the Report of the Lords of the Council of Education stated that in the nine months in which the schools at South Kensington had been lighted by electricity there had been a saving of 42 per cent. as compared with gas.—The resolution was carried unanimously.

On the motion of Mr. HARDING, seconded by Mr. W. ABBOTT, a vote of thanks was passed to the Chairman and directors, and the meeting then closed.

PANULCILLO COPPER COMPANY.

The eighteenth ordinary general meeting of shareholders was held at the New Exchange Buildings, George-yard, Lombard-street, on Tuesday.—Mr. JOHN PENDER, M.P. (the Chairman) presiding.

Mr. J. S. ALEXANDER (the secretary) read the notice calling the meeting, and the report and accounts were taken as read.

The CHAIRMAN said—Gentlemen, I shall merely refer to some of the figures, so as to give you fuller information than the report conveys. In the past financial year, 42,989 tons of copper ore were smelted at Panulcillo, and 5262 tons of coke and 4237 tons of coal were consumed in these furnace operations. The Chili costs amounted to £748,600, consisting of copper ores £278,374, fuel £168,889, loss in exchange \$146,510, general charges \$58,351, sundries \$96,475—together £748,600. Then 4841 tons of copper regulus, containing 2258 tons of copper, were produced, which realised £881,457. The Chili profit of business was \$139,858, being smaller than realised in the preceding financial year by \$41,083. Dissecting the profit and loss account for the last two financial years the diminution of profit last year of \$41,083 is found to be accounted for as follows:—Smelting \$49,260, mining \$430, and sundries \$9400—together \$59,090, less smaller loss on exchange \$15,080, and greater profit on stores \$2927—together about \$18,007, which taken from \$59,090, leaves \$41,083. The production of the last financial year cost more on the basis of copper contents than that of the preceding year by \$82,255, but realised more by \$72,972. Comparing the two halves of the past financial year on the basis of the copper contents in the last half-year ended June 30, 1881, the cost of production as compared with the previous six months was \$21,762 less, but it realised less by \$65,373, which shows you where the loss has come. The diminished profit for the past half-year, the Panulcillo manager observes, has been brought about by numerous smaller difficulties and hindrances which have been encountered in almost all quarters. These, it is satisfactory to add, are of a passing nature, and it may reasonably be expected that the current operations may be free from those difficulties. The unfavourable conditions which we laboured under during the last six months were a lower price for copper, which you are all aware of, and a smaller price for regulus, and a scarcity of labour throughout the establishment generally, but especially on the calcining and spalling canchas, consequent upon the war operations, hence the difficulty of calcining the quantity of ore required for the furnaces. Another cause was that we used up in that period a considerable quantity of dearer fuel. You will remember that at one time we had to ship a considerable quantity of high-priced fuel, a considerable portion of which came into last year's operations. There is also another difficulty—that is, a certain scarcity of purchased ore, arising from the competition, to which may be added the minor drawbacks. All these circumstances are considerably modified during the current year, since June 30, and we are endeavouring as far as possible to have them modified still more. We are about to send out some boring machines, which was strongly recommended by our mining engineer, and we have taken the best advice we could get in this country on that subject. We intend to spend 2000l. in sending out the quantity of ore for calcining in heaps, and we have, therefore, sent a stone-crusher, and we hope to have two of them at work shortly if they are not at work at this time, and this will obviate to a considerable extent the difficulty of labour in that direction. I may mention that, looking to the quantity of stuff which we produce now, something like 2300 tons of copper, there ought to be some improved arrangements, and there ought to be a large increase in that production. Labour has, so far, been a difficulty, but we have overcome that difficulty by mechanical labour; we shall continue that, for if we produce the quantity of stuff we produced last year we shall have double the amount of profit, low as the price of copper has been. The general expenses are pretty much the same, and if we only increase our production, as we propose to do, we shall see still a considerable improvement in the position of the Panulcillo Mines. I am very glad to say to you that, in justification of the remarks I have made, and which I have just read from our manager to the effect that he believes these difficulties which we had to contend with last year would be removed during the present year, I have just received a telegram from him this morning, for we are anxious that the shareholders should have the very best and very latest information as to what is doing at their mines. The telegram which we have received this year is as follows:—"Chili profits for four months, July to October, 8000l." Now, gentlemen, that 8000l. is quite equal to if not more than for the six months that we had in the previous year; therefore, that shows very clearly that we shall be better by 3000l. in the last half-year than in the previous. That is very encouraging working, and very much bears out what our manager there has stated. There is another feature which I may mention as very satisfactory. When I last had the pleasure of addressing you we had 40,000l. of debentures out upon which we paid 10 per cent. We thought, looking to the very changed and very improved position of the Panulcillo Company, as it has been, that it was not right that we, who are paying a 10 per cent. dividend, should pay 10 per cent. upon the debentures. Therefore, we decided to invite tenders for the amount of debentures now floating. We have received those tenders, and I am very pleased to say that we have placed the whole of them, and could have placed them at over par at 6 per cent.; therefore, the saving upon the debentures alone will be something like 1 per cent. upon the capital of the company. I think that shows very clearly the position of the Panulcillo Company, as it has been, and it is very clearly proved by the debentures being placed at 6 per cent. I may mention, also, with regard to these debentures, that we have paid off 5000l. this year, and reduced the amount to 35,000l. We shall watch very closely the state of the money market. We are very anxious to keep a very full supply of fuel at the works, and as far as fuel is concerned you will observe in the remarks I have made that we consume nearly 10,000 tons of fuel in the year, so a little saving on the fuel is a large and important consideration for the mine. The fuel being shipped at present, to enter into the accounts to be rendered in May, 1883, including freight, cost 12s. 6d. per ton less than what was shipped in the year 1880. It is the cheapest fuel ever sent out by the company, taking quality into account. The average cost of fuel shipped in 1880, which would benefit the current accounts, is 10s. per ton less than in 1880, or something like a saving of 5000l. a year. That is a very important item, seeing that we have a fuel which ought to keep us something beyond June of next year; so at the present price we intend to keep up the supply of something like twelve months of fuel ahead of our requirements. At the latest accounts labour had become more plentiful, and the competition for outside ores less. With better prospects for trade and improving value for metals copper prices may be expected to go higher. I think, gentlemen, that these remarks I have shown you all the points which are interesting, and I think every one of them is satisfactory, and they are borne out by the telegram which we have just received; and when I tell you that we believe the mines were never under better management, if even under such good management, as at the present time, and we have very confidence in Mr. Jones, and that his word, as far as we can fairly judge, is perfectly to be relied on, we have the fullest confidence in his management. I think it is going on now, which is satisfactory in every respect. I can only say that Panulcillo will take a very high position in the list of dividend-paying mines. (Cheers.) With these remarks I have to propose that the report and accounts of the directors submitted to the meeting, be and the same are, hereby received and adopted, and that, as recommended by the board, a dividend free of income tax be and is now declared of 3s. 6d. per share upon all the shares of the company, making with the interim dividend of 4s. per share, paid April 23, 1881, a dividend of 7s. 6d. per share, free of income tax, for the year ended June 30, 1881.

Mr. FRANCIS J. JOHNSTON (deputy-chairman), seconded the motion, which was carried without any discussion.

The CHAIRMAN said the directors considered it would be more convenient to close the accounts at the end of January, so that the meetings be held in April or May. He moved that the general meeting of the company for 1882, and subsequent years, be held in the month of April or May, unless the board may otherwise

wise determine.—Mr. JOHNSTON seconded the motion, which was put and carried.

The CHAIRMAN proposed that Mr. Frank Walters Bond be re-elected a director. He said that Mr. Bond was one of the gentlemen who for some years before this became a dividend-paying company gave the company the benefit of his very valuable advice and assistance, he having experience of metals and mining, and the board were indebted to him for the mining engineer who had been sent out, and who promised very well indeed.—Mr. F. J. JOHNSTON seconded the motion, which was put and carried.

Mr. JOHNSTON said they had lost the services of a very valuable director, whom to know was to esteem, and who had taken the deepest interest in the company, so much so that he spent a considerable time at the mines in Chili, going closely into the working, and acquiring valuable knowledge for us. In his place they had elected his brother, Mr. John Denison Bond, who retired on the present occasion, and he had great pleasure in proposing that gentleman's re-election.

Mr. SKELTON seconded the motion, which was put and carried.

On the motion of Mr. SKELTON, seconded by Mr. JONES, the auditors, Messrs. Harding, Whinney, and Co., were re-elected.

On the motion of Mr. JONES, seconded by Mr. HARKER, a cordial vote of thanks was passed to the Chairman, directors, manager, and staff.

The CHAIRMAN acknowledged the compliment. He bore testimony to the valuable services of the manager, and expressed the hope that the present handsome dividend of 10 per cent. would shortly be materially increased.

The meeting then broke up.

MONA MINES.

An informal half-yearly meeting of shareholders was held at the offices of the company, Dashwood House, New Broad-street, on Wednesday.—Mr. WILLIAM BRUCE DICK in the chair.

Mr. W. J. LIVINGTON (the secretary) read the notice convening the meeting.

The CHAIRMAN said that as the details with regard to the mining would be dealt with in full by their manager, Mr. Evans, he would content himself with stating the general financial position, which was as follows:—They had raised for the market, ochre, 2000*l.*; ores and precipitate, 1200*l.*; regulus, 1900*l.*; bluestone, 500*l.*; and there were book debts due to the mine, 966*l.* They had metal in the bottoms of the furnaces 600*l.*, and they had iron in stock valued at 900*l.* The stores were equal to 2500*l.*, and the stock at the farm, including corn and hay, was 1800*l.*; total, 12,366*l.*, and all the company owed was 900*l.*—Mr. EVANS then read the following report:—

Oct. 22.—Since the date of my report, made for the statutory meeting of March 10, reports have been periodically issued descriptive of the operations prosecuted and of the results obtained, and my present report will therefore be a résumé of the operations conducted during the period which has since then elapsed. At Sydney's shaft we have sunk from 70 to the 80, and have performed the work successfully, although under considerable difficulties. Contrary to our usual experience, the ground required great care in securing, and the ventilation having demanded a large outlay and a considerable amount of labour, the work has been attended with a great deal of cost and attention. This has considerably hindered the development of this part of the mine. The sinking was completed in July, and since then, a cross-cut has been driven to the 80, a distance of 15 fathoms, thus securing the thorough ventilation of this part of the mine. A winze has been sunk between the 70 and 80, thus effecting a communication between those two levels. At the 80 we have driven east of the shaft about 15 fathoms, but so far have not turned out any ore to value; but, as we are avoiding the lode in order to drive eastward speedily, we attach no importance to this fact, and are confident that to the north of the large bodies of ore which only remain to be brought up to the surface. At the 70 we have driven east in the course of the lode a distance of 22 fathoms, and are still continuing it. We are here in ore ground, but, as in the former case, being anxious rather to open the level eastward than at present to raise ore, we are driving to the south of the lode, and for that reason turn out only a small quantity of ore, which occurs upon the heading shaft. This is brought to surface and dressed. We have sunk a winze from the 55 to the 70, thus opening out the ground for advantageous stopping between those two levels. We are also rising from the 70 to the 55 at a point 25 fathoms further west than any other winze, in order to facilitate and cheapen the raising of the ores. This is a portion of the scheme which I have for some time organised, in order to raise the ores and bring them to surface at a greatly reduced cost. At the 41, Cairn's shaft, we have driven south from former workings 18 fms., and in July last set on tribute a portion of the ground thus laid open. This is immediately under extensive workings, which extend from the great western open cast all the way down to the 30, and judging by the enormous quantities obtained here in former times, we have every reason to believe that this will open out another valuable run of ore bearing ground. The ore is not rich, but as very large quantities may with confidence be anticipated, we have every reason to hope that this will add greatly to the profits of the general adventure.

At the Bluestone shaft a level driven south, which we completed in one month, brought us into a fine deposit of bluestone, upon which we are now working; it is promising, and augurs well for the return of a large quantity of this ore. At the same shaft, and in the same level, we have driven east about 18 fms., and during our progress have gone through a series of extensive ancient workings, evidently prosecuted for the raising of copper ore. Whether the bluestone remains here untouched or not we cannot as yet ascertain, but as bluestone in former times was regarded as valueless, and, indeed, actually used as a road material between the mines and the port, the probability is that large masses yet remain here intact. During the present month we have begun to drive south at the 30, Tiddy's shaft, in the eastern portion of the mine, for the purpose of cutting the Charlotte lode, the Carreg-y-doll lode, the Golden Venture lode, the Clay-shaft lode, and the Bluestone lode. We had no sooner started this cross-cut than we began immediately to turn out stones of ore of average quality. The ground is most promising, and as is shown in the section appended to the report, we have before us while driving in this direction several lodes, which have proved enormously rich from shallow levels to the surface; it is a portion of the Mona Mine set, though, although found rich in former times, has been neglected for the last 50 years. The drawing of ores from this part of the mine has been provided for by pulleys laid between the small engine laid at Cairn's shaft, and Tiddy's shaft. This important exploratory cross-cut would have been commenced long ago but for the difficulties we have experienced in draining this end of the mine. The extra strain put upon our old wooden pitwork at Pearl's shaft caused the breaking down of many of the decayed parts, until now for many years lying under water, and after draining the levels to this extent the condition of the long-abandoned shaft and levels caused much unexpected trouble, expense, and delay. It is all now ready for working, and may be regarded as a duplicate of that portion of the mine upon which we are working at Cairn's shaft and Sydney's shaft; it is certainly quite as valuable, and requires only time and judicious development in order to double the value of the concern.

The tribute pitches taken throughout the mine look better than I have ever known them. On the surface all has gone on with regularity. We have prepared for market a large quantity of ochres and oxides than usual, but the weather which prevailed during the summer months caused this to be attended with much greater labour and cost than in ordinary years. We have on hand a large quantity of oxides for gas purifying purposes, for which we have not effected a sale, in spite of every effort to that end. We have raised in the latter part of the season a very large quantity of ochre, which the weather has not allowed us to make ready for sale. All this has entailed a very serious cost, but the expense will, I believe, be amply recouped in the spring of the coming year. In the farm we have been careful to attend to all its agricultural requirements, and have derived from it an ample supply of provender for the works, and from the port to the mines. I may report that all here is in perfect order, and that the horses are in good condition, and the farm well cared for. In the smelting works all has gone on with regularity. We have now four furnaces at work, and another nearly ready. Our stock of ores is increasing, but I do not think it would be wise to sell ores in the present condition of the copper market. We have erected some new calcining kilns on an improved principle. These will do more work and save labour. Taken generally, I may safely assert that the working of the concern is in a thoroughly satisfactory condition, and that in a very short time all will work well, and with advantage to the proprietary. The sales made since have been:—Regulus, 689*l.*; 18*l.*; 2*l.*; ochre, 315*l.*; 8*l.*; bluestone, 124*l.*; 19*l.*; 5*l.*; 11,071*l.*; 4*l.*; 4*l.*; and regulus not settled, 1000*l.*, making 12,071*l.* 4*l.* 4*l.* in all.

I quite endorse the remarks made by Mr. Kitto in his report in the *Mining Journal* of Aug. 13. The extra cost which we have incurred in raising the quantities of ores we have produced has arisen entirely from an anxiety to prove to the proprietary the actual potentialities of the mine. The ores thus raised, I grant, have been raised prematurely, and it has been done contrary to the dictum of my own judgment; but believing that they are only a slight earnest of what will be obtained in the future, I deemed it expedient temporarily to set aside the rules of good mining to prove that the old mine has only to be called upon in order to show what it can do. Time, I firmly believe, will prove that it is one of the most valuable mining properties—if not the most valuable—in the whole kingdom. It is a matter of regret to me that the estimates I made in my last report have not as yet been realised so far as they related to the quantities of copper ore and bluestone, but as my confidence in the powers of the mine is unabated I have every reason to believe that the unavoidable delays consequent upon engineering and other difficulties, merely postpone for a time the results which I have anticipated. Some months ago I drew out, at the request of the board, a descriptive report and plans of that portion of the Mona Mine set lying to the south and east of our present workings which now remains entirely unworked, and which I do not mind the shareholders to the advisability of carefully considering the best means of developing this part of the property. Shafts sunk in former times proved its value beyond all doubt, but as steam power was not in those days available for pumping the water compelled their abandonment when they were only about 16 fms. deep.

Mr. H. L. PHILLIPS: Why is it that in the face of Captain Kitto's distinct recommendation, you have discontinued sinking the shaft? Is it intended to resume it?—Mr. EVANS: Yes at once.—Mr. BATTERS remarked that Captain Kitto's remarks had reference to a time antecedent to the company's taking possession.—Mr. PHILLIPS: There are rumours outside that the mine has been very badly worked, so badly, indeed, that it will very soon come to an end and that we may not come to take with reference to the proper development, so that we may not come to a dead stop. Mr. Kitto visited the mine at only 4*l.* to 5*l.*, but I do mind the property coming to a dead-stop because the first principles of mining are neglected. If you cease sinking your shaft it seems to me you will soon come to a stop. I think we should get some decisive statement as to the course of operations you are going to pursue in the future.

Mr. EVANS: We intend to sink the shaft forthwith.—Mr. BATTERS: Which present we are driving east at two points in Sydney shaft, in order to develop the ground at the 70 and 80. Then we are rising from the 70 to the 35 in order that there may be no underhand stopping. Mr. Kitto visited the mine at my special request, and it was only afterwards that I obtained the authority of the board to submit to them his report.

The CHAIRMAN: I was at the mine at the time, and took upon myself the re-

sponsibility of asking Mr. Kitto to thoroughly examine the mine, and prepare a report. We have every reason to be satisfied with his employment.—Mr. EVANS: Any reports, such as those Mr. Phillips has named are entirely unfounded.—Mr. BATTERS: The statement that you are about to sink the three shafts I think will be received with considerable satisfaction. I should like to have asked Capt. Hughes, the underground agent, who is here, whether the mine is not in a better position now than it has been for the last 15 years, or what he considers its position really is, and whether there are any grounds for the rumours which have been circulated to its detriment?—Capt. HUGHES: The mine is in a better state for working than it has been during the last 20 years. It has been working under very great disadvantage, because there has not been enough sinking.

Mr. BATTERS: That was the condition in which we took the mine over.—Capt. HUGHES: The mine has only had fair play for two years. We have sunk two "drifts" on Sydney shaft, and driving cross-outs. In another nine months we shall have a further "drift."

Mr. BATTERS: Would you make it perfectly straight that these remarks by Capt. Kitto bear reference to the period antecedent to the present company taking possession, but that since the present company has been working these shafts have been sunk, and levels driven as set forth here.

Mr. EVANS: With reference to the apparently undue cost which has attended the raising of our present returns, we are not so much losers as at first sight appears. We were compelled to open out our smelting works, to take a lease, to make repairs, to erect calcining kilns and furnaces, and if we had not used them at the earliest possible moment, our establishment charges would have gone on all the same. As soon as we have opened up the ground properly, and that will be in a few weeks, we shall get the ores at a greatly reduced cost, with all the advantage of being able to smelt them ourselves. When everything is in order, the returns will be greater and the costs will be reduced. We shall discontinue stopping underhand in about a month or six weeks.

Mr. BATTERS said that this explanation would be satisfactory to the shareholders both present and absent. (Hear, hear.)—The CHAIRMAN: It was the choice of two evils, and Mr. Evans accepted the least.—Mr. EVANS: The former company spent no money on tubwork, and for that reason they became extinguished.

A SHAREHOLDER: All this has arisen from the declaration of the dividend, which you were unable to maintain. If we had not received that dividend the rumours would not have gone about.—The CHAIRMAN: I think that is the cause.—Mr. EVANS: There has been no cessation of exploratory work.—A SHAREHOLDER: You have referred to the valuable discovery unknown to the former proprietors. Were they immediately antecedent to us?—Mr. EVANS: The discovery was never known before we took possession. It is quite independent of everything found in the open-cast and everything surrounding it.

Two-thirds of the ore we have raised since has come from there. We have only recently had sufficient steam-power. We have a Cornish pumping-engine at one end of the mine, and we have lately erected a new engine on the western part, and the two of which are amply sufficient to clear the mine for 50 or 60 fms. deeper. We have 8 in. pumps, all made of wood, because copper eats away the iron. When we began draining the eastern part of the mine we had to put everything in working order, but we have now succeeded in getting the water out. The shaft, which was in a very bad state, has been repaired, and we are driving south to prove the ground in that direction.

Capt. HUGHES said they had sunk from the 55 to the 70, and from thence to the 80, and were going deeper. (Hear, hear.)—Mr. EVANS added that the sinking of Sydney shaft had nearly been suspended while they were driving from it. It was impossible to drive levels whilst the shaft was being sunk close by.

Mr. BATTERS: I think it goes forth that the sinking of the shaft had only been stopped for a sufficient time to allow of the levels being driven from it, and then resume on another level. Our shareholders are evidently throwing away their shares, and sacrificing their property. (Hear, hear.)

The CHAIRMAN: I think we have every reason to feel satisfied that we are in possession of a most valuable property, and that it is being worked in a most judicious manner. With Mr. Evans at the head of affairs I am satisfied that in a little while we shall see the Mona Mines in a most flourishing condition. I would not part with a single share I hold. I should not like (as a shareholder has requested me) to promise a dividend this year. It depends upon our being able to realise our objects.

In reply to further questions by Mr. HILL, the CHAIRMAN stated that the smelter market fell, and that caused their bluestone to be disposed of less advantageously.—On the motion of Mr. BATTERS a cordial vote of thanks was passed to the Chairman, Mr. Evans, and the management generally for their services.

CWM DWYFOR MINING COMPANY.

An extraordinary meeting of shareholders was held at the company's offices, St. Clement's House, E.C., on Thursday, Mr. JAMES STEWART in the chair.

Mr. G. J. GRAY (the secretary) read the notice convening the meeting.

The CHAIRMAN said he need hardly again express his feeling of disappointment at the want of success they had hitherto met with in working the Cwm Dwyfor Mine. He had pinned his faith to the undertaking, based upon what he had seen on the occasions of his visits to the property. He still believed that it was likely to prove a profitable mine, but unfortunately shareholders were either unwilling or unable to find the capital required for further operations. He now called upon the secretary to state the present position of their affairs.

The SECRETARY stated that it was generally admitted that they had in Cwm Dwyfor Mine a valuable property, and he might remind the shareholders that several parcels of lead ore had been sold. As, however, they did not seem willing to find the 2000*l.* required to thoroughly prove the mine in depth, it had been suggested whether the shareholders would allow the property to be worked by other parties on the terms that the shareholders should receive a certain proportion of the net profits. The object of the present meeting was to ascertain whether the shareholders would agree to such a proposal. As regards the Brynarian property the shareholders would have seen from the circular sent to them what work was proposed to be done. With a view of facilitating the immediate starting operations one of the directors had made an advance to the company, and he was glad to report that that work was already in progress in Joseph's level, which had to be driven a further distance of about 15 fms., making 185 fms. in all, in order to cut Joseph's lode, which in a shaft sunk to a depth of 4½ fms. from surface had a most promising appearance. It was in order to carry out this work, and also the work at the other two points mentioned in the circular of the directors, that the money asked for was required. Mr. F. B. Henderson, civil engineer, of London, had recently visited the Brynarian property, and strongly urged the carrying out of the work at the points referred to, which had all been completed at a very heavy cost to the former holders.

Mr. CORDEBY asked how the required capital was to be raised?—The CHAIRMAN replied that it would be raised by the issue of some of the remaining unallotted shares to the present shareholders at a discount.

Mr. CORDEBY: How long will the work suggested at Joseph's level require for completion?—The SECRETARY replied that at the present rate of driving it would probably be completed within three months, and if they were successful in cutting the lode rich an extensive run of stopping ground would be opened out. Mr. CORDEBY said that he should suppose if the matter was brought before the shareholders they would be so small, doubtless contribute *pro rata* on the amount of their holding. He thought the thanks of the shareholders were due to Mr. Barton for having advanced the sum required to commence operations.

Mr. MORGAN said as regards the Cwm Dwyfor property some such arrangement as that mentioned by the secretary seemed under the circumstances to be done. He should suggest that a meeting be called to formally consider the matter. The amount named for the work at the Brynarian property was so small that a very small subscription by each shareholder would provide it. After some further discussion it was resolved that a meeting of shareholders be held at as early a date as possible.

A vote of thanks to the Chairman terminated the proceedings.

THE PRINCE OF WALES SLATE COMPANY.

The first general meeting of shareholders was held at the company's offices, St. Clement's House, Clement's-lane, on Monday, Mr. H. L. HAMMACK in the chair.

Mr. G. J. GRAY (the secretary) read the notice convening the meeting.

The CHAIRMAN said the meeting was called in compliance with the statute, which required that a company should hold its first meeting of shareholders within four months from the date of registration. There was no business to transact, but the directors were glad of the opportunity of meeting the shareholders, and of telling them what steps had been taken to carry out the work at the Prince of Wales Quarry, of which full particulars had been given in the statement put before the shareholders when the company was started. Up to the present operations had been confined to the driving of a tunnel under the slate-rock lying to the west of the former workings, as shown in the sectional view of the quarry in the room. As yet, whilst slate-rock had been passed through, it was not of sufficiently good quality to open out a gallery upon; but as they had now driven the tunnel 55 yards they were informed by the engineer of the company that he considered the rock would soon be free from the disturbance of which there were evidences at the surface, and which had contorted and crushed the rock at that point, and it was the intention of the directors to order the tunnel to be pushed on in the direction of the good rock with all speed. In concluding his remarks, he said the directors hoped, under the guidance of their engineer, Mr. Henderson, to bring the undertaking to a successful issue, and that every effort should be made on their part to secure such a result.

Mr. MAW (a director) said that he, in common with most of the other directors, had been interested in the former company, which had expended a large sum in developing the property and in redeeming the royalties, and he still believed it would be a remunerative concern; he had shown his faith in it by taking up all the shares to which he was entitled under the arrangement by which the properties were transferred to this company. The shareholders might be sure their interests would be well looked after as the board held shares to a considerable amount, which they had paid for in the same way as other shareholders.

Mr. GODWIN: Though I am not a large shareholder I evidenced my belief in the company by taking up all my shares. I hope there is sufficient capital to carry out the necessary work.

The CHAIRMAN: We have sufficient to complete the work at present in hand, which is in reality testing the western vein. There would probably be no difficulty, when good rock is met with, in obtaining the capital for more extensive operations.

Mr. HENDERSON, C.E., then by means of a diagram pointed out the work in progress, and expressed his confidence that the cross tunnel being driven from No. 5 would shortly enter good slate rock, and stated that he formed this opi-

nion from the fact that at a point on the surface, a little in advance of the present forebore of the tunnel, an outcrop of excellent slate rock was to be seen. The disordered ground hitherto passed through was fairly attributable to the local disturbance of the rock at that point, and the same influences would not, in his opinion, be found to have effected the rock which the tunnel was entering. A width of only 30 yards of good slate rock would be ample, situated so favourably as this property was, for a very profitable quarry. He further stated, as described in his report, that the western vein, upon which operations were in progress, was in his opinion identical with the vein wrought at the Glanrafon Quarry, and that a practical man who had lately visited both quarries had confirmed his views in this respect, the appearances of the slate rock in both properties being the same, and he had every confidence that his expectations, which were based on a very careful examination of the ground, would be realised.

A cordial vote of thanks to the Chairman, moved by Mr. GODWIN, and seconded by Mr. BOUND, was carried unanimously.

NORTH BURY.—At the meeting on Oct. 20 (Mr. H. Whitworth in the chair) the accounts showed a loss on the 16 weeks' working of 1257*l.* 5*l.* 4*l.*, and a debit balance of 1198*l.* It was explained that there were 16 weeks' costs against 15 weeks' credits. Capt. John James, after referring to the various points of operation, reported that "owing to the lode becoming poorer since the last meeting we have not had time to stamp all the time. The tin sold has been principally from the slimes and leavings. We are now raising tinstone of fair quality, and I estimate that we have in process of crushing and on the mine about 3 tons of tin, and we have 8 tons of blende ready for sale. Seeing the improvement in the tin, I think our prospects are greatly improved, and that we are on the eve of something good and lasting." The accounts and agent's report were adopted, and a call of 5*l.* per share was made. A special meeting was afterwards held, when it was decided to forfeit all shares in arrear of more than one call. There were only six persons who owed calls, amounting in the aggregate to 340*l.*, every penny of which was considered good, and it was the general opinion that they would be paid at an early date.

RIO TINTO COMPANY.—An extraordinary general meeting of shareholders will be held on Nov. 4 for the purpose of creating an additional 1,000,000*l.* of share capital, which, it is explained, will not only admit of reducing the whole outstanding balance (about 1,700,000*l.*) of the company's 5 per cent. Spanish coupon bonds, but will further provide an amount of working capital more in harmony with the company's extended and extending operations. In a circular referring to the meeting the Chairman, Mr. H. M. Matheson, informs the shareholders that the progressive results of the company's operations, together with the favourable state of the market, have encouraged the directors to propose this highly beneficial conversion. Assuming the first resolution—that in accordance with the recommendation of the board of directors the capital of the company be increased by the issue of 100,000 shares of 10*l.* each—be passed, the further special resolution will be proposed—that in the event of the foregoing resolution being confirmed as a special resolution the board of directors be and they are hereby authorised and empowered to issue and dispose of the 100,000 newly-created shares to such person or persons whether shareholders or not shareholders of the company at such time or times at such premium upon such terms (and if deemed expedient with a right to participate in the final dividend for the year 1881), and in such manner as the board may think fit.

FOREIGN MINING AND METALLURGY.

The Belgian coal trade is maintained in much the same state. The demand is active, and business is carried through in a satisfactory fashion, but still prices do not advance. An exception to this remark must be made as regards domestic qualities of coal, which are necessarily moving upwards with the advance of the season. The weather having become colder, consumers have shown some eagerness to lay in winter supplies. In France the demand for coal is increasing from day to day, and it appears probable that an advance will shortly be noted in prices. Under these circumstances many persons are hastening to lay in winter supplies. There are complaints in many quarters of an insufficient supply of rolling stock upon the French railways. The coal trade has continued to improve in Germany, and the advent of cold weather has caused many orders to be given out for household coal. Deliveries have been generally active, and they would have shown still more activity if a scarcity of railway rolling stock had not checked business. Deliveries of coal to Holland *via* the Rhine have been resumed with energy. In Upper Silesia business has continued very active. The extraction of the Saarbrück coal mines during the third quarter of this year amounted to 1,242,907 tons.

The Belgian iron trade continues to exhibit a fair amount of animation. Orders arrive freely from all quarters, and prices have shown a rather marked upward tendency. A rise has not been actually attempted at present, but the situation appears to be at any rate assured for some time to come. Employment is abundant, and the orders of clients are generally executed with some difficulty. Pig has been maintained with extreme firmness in Belgium; it is not at all surprising that this should be the case, since orders are arriving, while stocks are disappearing. In the Charleroi district one of the principal works has succeeded during the last few weeks in disposing of a stock of 28,000 tons to 30,000 tons of pig; another establishment appears to be in a position to accomplish a similar result, but the management prefers to keep a certain quantity of pig on hand, as it anticipates that prices will rule still firmer. The demand for iron is increasing in Belgium; even scrap-iron, which had been neglected, is now in more request. The Belgian Consul in Roumania has directed the attention of Belgian industrialists to the fact that a contract is about to be let at Bucharest for pipes for water supply purposes. M. de Wendel has obtained a contract for basic rails at Strasburg. It is also reported that M. de Wendel has obtained a very large order for basic rails from the Eastern of France Railway Company.

The advance recently noted upon the St. Dizier (France) iron market has not checked the animation in business which has prevailed of late. Orders still come to hand freely. It is remarked, however, that these orders have been received principally from small buyers, and that large firms have shown a certain hesitation in making purchases. Iron has made 7*l.* 8*l.* per ton in the Nord, 8*l.* per ton in Champagne, and 8*l.* per ton in Paris. The steelworks and establishments devoting their attention to railway plant appear to be doing better than the ironworks properly so-called. Rails have returned to 9*l.* 4*l.* per ton. The production of axles, wheels, and tyres is engaged for many months in advance. It is announced that the Terre-Noir Company has taken an order from the Paris, Lyons, and Mediterranean Railway Company for 2000 tons of rails to be delivered in the first quarter of 1882; the contract price is 9*l.* 4*l.* per ton. An order for 13,000 tons of rails is expected to be given out shortly by the Orleans Railway Company. The state of the German iron trade is generally favourable, and prices exhibit an upward tendency. A contract for axles has just been let at Bromberg; the lowest tender was that of the Phoenix Works, of Laar.

A MINING COMPANY AND ITS SHAREHOLDERS.—In the City of London Civil Court on Monday, before Mr. Commissioner Kerr, an application was made by Mr. Tickell for a new trial in an action brought recently by Mr. William Dierken, agent, of London and Liverpool, against the United Shepherds Wheel Rose Mining Company (Limited). The plaintiff had recovered the amount of his deposit on a number of shares on the ground that he had been induced to buy them through seeing an advertisement in which it was alleged that they were at a heavy premium, whereas he subsequently discovered that they were almost, if not wholly, worthless. He also found that of the 25,000*l.* of purchase-money only some 17,000*l.* had been subscribed. On proof of these allegations the learned judge held that the plaintiff was entitled to have his deposit money returned, and gave judgment accordingly. Mr. Tickell now argues that there was either insufficient or no evidence that the plaintiff had been deceived by the company as to value of the shares, while as to the purchase-money, the directors were empowered to modify the amount, and they had done so in the interest of the shareholders. The former decision of the Court would practically amount to an estoppel on the directors, and might involve the loss of hundreds of pounds. His Honour said he was well acquainted with the facts of the case. The plaintiff saw an advertisement which professed that the shares of the company were selling at 100 per cent. profit, and he was foolish enough himself to consider that the directors would be still greater fools to sell him shares at 100*l.* which were worth 200*l.* each. (Laughter.) Who would insert such an advertisement at his own expense? Mr. Tickell.—Perhaps some enemy of the company. His Honour.—That may be so, and the silly people were therefore deceived; but it is open to me to draw the inference that the directors were cognizant of it. At the same time the plaintiff as a

mere speculator is not entitled to any sympathy, but he made out his case on the previous occasion, and I must decline to grant a new trial.

VALVES FOR PERCUSSIVE ROCK DRILLS.

An improved construction and arrangement of the valve gear employed in controlling the admission and release of the working fluid to percussive rock drills has been invented by Mr. J. H. HARRISON, of Chester. The cylinder and drill piston are constructed in the ordinary manner. The valve is made like a hollow beam or lever of the first order, and the same length as the drill cylinder, and whose longitudinal axis lies parallel with the corresponding axis of the cylinder. The working fluid is admitted on its upper side through a hollow fulcrum, upon which it vibrates or makes a partial revolution. This hollow fulcrum does not pass through but stops short of the metal forming the bottom or opposite side to the inlet of the valve. On the opposite surface are formed elongated ports corresponding with the ports in the cylinder, and whose length is in the direction of the axis of the cylinder. The ports are made extra long in order to reduce the partial rotation of the valve necessary to place them in communication with the cylinder to the smallest possible amount.

This construction enables the full pressure admitted to the interior of the valve to be conveyed to the drill cylinder by an extremely short port, and thus causes it to operate with the greatest possible effect upon the drill piston without loss from friction in passing through a long port, as in drills of ordinary construction; by the same means the fluid is as suddenly released, thus avoiding back pressure against the drill piston. A further advantage from the above described valve arrangement arises from the small capacity of the ports leading into the cylinder, thus greatly economising the fluid pressure employed in driving the drill. The partial rotation of the valve which places the drill cylinder in communication with its interior, or to the atmosphere, is effected by small pistons or rams placed at opposite ends of the valve, but at the same side and at right angles to its longitudinal axis. The admission and release of fluid pressure to these valve pistons is controlled by the movement of the drill piston, which at suitable points in its stroke uncovers small passages leading from the drill cylinder to the valve cylinder.

Upon admitting the working fluid to one of these valve pistons it presses against the extremity of the valve, causing it to move on its fulcrum, thus opening communication between the pressure in the valve and the drill cylinder at one end, and the exhaust at the other. At the same time the piston at the opposite end of the valve is driven backwards preparatory to making its forward movement. By properly proportioning the areas of the inlet, outlet, and cylinder ports the valve becomes nearly balanced, requiring much less pressure upon the pistons moving it than if it were unbalanced as an ordinary slide. The pressure against the valve faces, due to the area of the inlet through the fulcrum, is opposed by the pressure upwards against the area of the ports. In practice the area of the inlet is made to exceed slightly the area of the ports in order to insure the valve being retained against the port faces of the drill cylinder.

SMOKE ABATEMENT EXHIBITION.

The following official communication from the American Minister, Department of State, Washington, dated Aug. 31, 1881, has been addressed to Earl Granville, Secretary of State for Foreign Affairs, and forwarded to the honorary secretary of the Smoke Abatement Committee:—"Sir: I have to acknowledge the receipt of your note of the 24th instant, stating that it is proposed to hold in London during the coming autumn an exhibition of apparatus of all kinds devised to prevent smoke or to consume smokeless fuel, as well as various kinds of fuel. This subject is one in which the manufacturing cities of this country, in which bituminous coal is largely consumed, are deeply interested, and this Government will, therefore, make special efforts to give publicity to the objects of the exhibition in question, as well as adopt any measures which may be found practicable for its interest and success. With thanks for the information communicated to me by your above-mentioned note, I have the honour to be, &c. (Signed) E. BLAINE."

This communication was read at a general meeting of the Smoke Abatement Committee, held at their rooms, 44, Berners-street, on Wednesday last, when there were present, among others, Lord Harberton, Sir Frederick Pollock, Bart., Prof. Chandler Roberts, F.R.S., Capt. Galton, C.B., F.R.S., Mr. Ernest Turner, Dr. Wyld, &c., Mr. Ernest Hart, Chairman of the joint committee, in the chair.—The hon. secretary (Mr. W. R. E. Coles) reported that the directors of the Gas Light and Coke Company had liberally decided to give the gas required for the purposes of the exhibition gratuitously, and expressed the sympathy of the board with the objects. A vote of thanks was unanimously accorded to the gas company. Following the reading of the financial statement the following additional sums were announced:—Dr. Siemens, a member of the committee, had offered a prize of 100 guineas to be given for the best method or arrangement "for utilising fuel as a heating agent for domestic and industrial purposes combining the utmost economy with freedom from smoke and noxious vapours;" for the "Ladies' Prizes" (consisting of two sets of prizes of 50 guineas each) it was announced that there had been received from Mrs. Rathbone 10 guineas, the Baroness Burdett-Coutts 10 guineas, Lady Pollock 2 guineas, to be awarded on trial by experts for best open grates, and the best kitcheners combining—1. Freedom from smoke. 2. Simplicity in arrangement and use. 3. Economy. The appointment of Mr. D. Kinnear Clark, M. Inst. C.E., as attesting engineer to superintend the trials under the direction of the Executive Committee, and of Mr. James Richards, of the Royal Albert Hall, as successor to Mr. Redgrave (who had been compelled to resign in consequence of his appointment as secretary of the Royal Technological Commission) as superintendent of the exhibition, were confirmed. The honorary secretary reported that applications for space had been received very numerous from the leading houses among the manufacturers of improved domestic fire grates and heating apparatus, as well as the inventors and manufacturers of various novelties for the consumption or reduction of smoke and for the better use of bituminous as well as smokeless coal and gaseous and other fuels. It was decided that some of the lectures to be given during the exhibition should have demonstrations in connection with the exhibits.

WASHING AND SEPARATING ORES.

Some four years since some ingenious improvements in ore dressing were made by Mr. DAVID BURNS, of Brookside, Haltwhistle, but although the results obtained were sufficiently encouraging to satisfy him that the machinery was correct in principle, he found that there was still room for useful modification. He states that by his present improvements the machinery is rendered more perfect and reliable in its action, and each machine is capable of adaptation for the treatment of different substances or materials varying greatly in their specific gravities. He now first breaks the mineral down to some definite and uniform size, and thus prepared it is to be fed on in a regular flow to one end of the machine. This consists of a box, the form of which may most conveniently be a rectangular prism terminating downwards in a rectangular pyramid. Throughout the length of the prismatic part of the box, and in the middle of its width, stretches a pipe, preferably of a heptagonal section, and with one of its sides downwards and horizontal. Throughout the whole length of this bottom side of the heptagonal pipe is a trellis or equivalent valve, which is opened and closed by means of a shaft in the interior, passing through a stuffing box to the outside and to a crank, eccentric, or such other mechanical arrangement as will give it a reciprocating motion. Above the heptagonal pipe, and stretching throughout the extent of the box, is a horizontal perforated plate or grating, with apertures somewhat larger than the largest of the pieces of materials being treated, so that they will readily pass through.

At the apex of the pyramidal bottom of the box is a valve, which can be opened and shut from the outside. On the bottom of the heptagon are regulating plates, which modify the force of the flow of water, and which can be moved by means of screws from the outside, and so adapt the same machine for treating different minerals

or other materials—such, for example, as coal. The heptagonal pipe communicates through the end of the box with another pipe, which carries water to it from a natural or artificial head. When the valve in the bottom of the heptagon opens and shuts it causes the water under pressure to flow in an intermittent stream into the outer box, and so fills it, and with a pulsating action passes through the horizontal sieve, and agitates the materials resting thereon. The upward pulsating flow of water raises the substances, but the lighter parts to a greater degree than the heavier. The result of the double action is that the coal, or other lighter substances, is forced to the top and washed over at a depression in the mouth of the box, and may be allowed to settle in settling pits, or may be strained from the water by perforated plates or otherwise, according to the convenience of the situation; while the heavier substances, which are also washed, fall to the bottom and pass through the apertures in the sieve, and gather in the lower part of the box, whence they are from time to time removed by means of the valve.

FOREIGN MINES.

The following reports were crowded out last week:—

ST. JOHN DEL REY MINING COMPANY (Limited).—Advices received Oct. 17, 1881, ex Tamar, dated Morro Velho, Sept. 18:—**GENERAL OPERATIONS.**—The less produce and lower yield per ton of mineral treated during the month of August is chiefly due to the forced extraction of unproductive lode contents (killas), consequent on the rapid advance of stopes 298 A and 297 B. The mineral treated also included the killas extracted from the exploratory cross-cut 278.

GOLD PRODUCE FOR THE MONTH OF AUGUST.—The gold obtained in this period amounts to 26,443.2 oits., equal to 3048.4707 ozs. troy. It has been derived as follows:—

	Oits.	Tons.	Oits. per ton.
General mineral	14,405.5	from 3953	3.643
ditto Elephant	805.9	" 254	3.172
ditto Praia	2,009.9	" 534	3.930
Mineral free from killas	7,943.8	" 1110	7.156
Re-treatment	25,164.1	" 5851	4.301
	1,279.1	" —	0.218
Total	26,443.2	" 5851	4.519
Add sundries	10.0	" —	—
Total	26,453.2	" —	—

Produce for August .. 26,453.2 oits.
Less in melting .. 123.1 ..
26,330.1 oits., at 7s. 9d. per oit. £10,202 18 3
Cost 7,686 5 2½

Profit for the month .. £ 2,516 13 0½
MINE.—Mineral raised from the mine .. 5900 tons
Mineral quarried per toner per diem .. 1.67
Average attendance of borers daily .. 138.52
Average attendance of natives daily .. 455.41

The output, though a trifle lower than that for July, may, however, be considered satisfactory when the advanced dry season of the year is remembered.

EASTERN SECTIONS.—In the dump and adjacent stopes the lode has undergone no special change. The extraction of mineral therefrom has been limited owing to prolonged delays required for placing the necessary supports of the walls.

STOPES 298 A AND 297 B.—A rapid advance has been made in these two sections. The lode generally is highly productive with increased mixed contents on the south side. No alteration to advise as to position or extent of slide.

SECTION 214.—A fair amount of high grade mineral has been raised from the "A" solar forebreast. The forebreast of cross-cut, though yielding fair proportions of pure mineral, still contains leaders of killas on its western side.

CUABA.—GOLD PRODUCE FOR THE MONTH OF AUGUST.—812 oits., from 327 tons, equal to 2.483 oits. per ton.

EXPENDITURE ON CAPITAL ACCOUNT.

	£	791 14 4
Surface machinery and other works ..	939 18 8½	
Mining, milling, and deep adit cost ..	£1731 13 0½	
Less value of produce ..	328 3 8	

Excess of expenditure .. £1403 9 4½

The yield per ton of the mineral raised from Vaz's sink has been fairly maintained. Stamps erected and new rego for amalgamation works are well forward.

MORRO VELHO.—GOLD EXTRACTED TO DATE.—The produce for the first division of September, a period of eleven days, amounts to 8266.9 oits., equal to 953.0388 ozs. troy. It has been derived as follows:—

	Oits.	Tons.	Oits. per ton.
General mineral	5,118.7	from 1167	3.92
ditto Elephant	158.5	" 66	2.401
ditto Praia	817.3	" 202	3.901
Mineral free from killas	2,351.8	" 347	6.758
Re-treatment	7,846.3	" 1792	4.368
	420.6	" —	0.234
Total	8,266.9	" 1792	4.602

MINE.—Return of duty for 13 working days:—

	Oits.	Tons.	Oits. per ton.
Mineral raised from the mine ..	2602		
Mineral quarried per borer per diem ..	1.63		
Average attendance of borers daily ..	122.61		
Average attendance of natives daily ..	308.54		

The gold troop conveying 12 boxes of bar gold, weighing in all 54,871.7 oits., equal to 6325.8144 ozs. troy, was despatched for Rio and England on the 16th inst.—N.B. The gold has duly arrived.

Telegrams received:—On Sept. 23, dated Rio, 22nd—"Produce 11 days (first division of Sept.), 8250 oits.; yield, 4.6 oits. per ton; profit for the month of August, 2500l."

On Sept. 29, dated Rio, 28th—"Produce nine days (second division of Sept.), 6500 oits.; yield, 4.2 oits. per ton."

On Oct. 11, dated Rio, 10th—"Produce for the month of Sept., 22,500 oits. yield, 4.5 oits. per ton."

FORTUNA.—Oct. 13: In the 120, driving west of O'Shea's engine-shaft, a good length of productive lode was opened up in the past month, valued at 1½ ton per fathom. The lode in the 70, driving west of San Pedro's shaft, is getting harder than it was. In the 80, driving west of San Pedro's shaft, the lode is well defined and of a promising appearance, producing ½ ton per fathom. In the 90 driving in the same direction a well formed lode, worth ½ ton per fathom, is being opened up at a cheap rate. The lode in the 30, driving east of San Pedro's shaft, consists chiefly of calcareous spar, quartz, and stones of ore. In the 80, driving east of San Pedro's shaft, the lode continues unproductive. The lode in the 120, driving east of O'Shea's engine-shaft, fluctuates considerably during a part of the past month it was very good; its present value is ½ ton per fathom. The 130, driving east of Lowndes's shaft, is still influenced by the cross-course, but is improving in value. The lode in the 80, driving east of San Toma's shaft, is very small and compact. In Juno's winze, sinking below the 110, the lode is more open than it was, and has improved in value to ½ ton per fathom. The lode in Obano's winze, sinking below the 60, is very firm and rather hard. In Chulo's winze, sinking below the 80, we expect the lode to improve as it gets deeper.

Los Salidos.—The lode in the 175 driving west of Taylor's engine-shaft is small and hard, so that little progress is being made. In the 175, driving east of Taylor's engine-shaft, the lode is very compact and regular, producing 1 ton of ore per fathom. The lode in the 160, driving in the same direction, is large and promising, being worth ½ ton of ore per fathom. The 145, driving east of Taylor's engine-shaft, is in broken and unproductive ground. In the 130, driving east of Taylor's engine-shaft, a rich run of ore ground is being laid open, worth 4 tons per fathom. In the 120, driving east of San Pablo's shaft, there is a compact and profitable lode, producing 2 tons per fathom. The lode in the 80, driving west of Palgrave's shaft, continues small. In Federico's winze, sinking below the 120, the lode (valued at 3 tons per fathom) is not so productive as it was, but is likely to improve again. The lode in Galera's winze, sinking below the 160, is worth 1 ton per fathom; we expect to hold this to the 175 in the present month. In Pepe's winze, sinking below the 60, the lode is rather small and hard at present, its value being 1 ton per fathom. The weekly weighings of ore were steadily maintained throughout the past month, and the stopes have not undergone any change of importance. The surface works are going on very regularly, and the machinery is in good condition. We estimate the raisings for October at 350 tons.

San Anton Mine. In the 45, driving east of Henty's engine-shaft, there is a powerful lode, producing 2 tons per fathom. The lode in the 45, driving west of Plata's winze, is very wide, laying open valuable ore ground worth 2 tons per fathom. In the 55, driving east of Henty's shaft, the lode is large, with stones of ore, valued at ½ ton per fathom. The 55, driving west of Henty's shaft, is still in the cross-course. The 45, driving in the same direction, is not yet free from the influence of the cross-course. The lode in the 30, driving west of Henty's engine-shaft, is very regular, with good stones of ore, worth ½ ton per fathom. Juan's winze, sinking below the 30, and producing ½ ton per fathom, is again interrupted by an increase of water. In Rafael's winze, sinking below the 45, there is a large and strong lode, with good stones of ore, worth ½ ton per fathom.—San Francisco Mine: The lode in the 25, driving east of engine-shaft, is very soft, with occasional stones of ore. In the 40, driving in the same direction, the ground is so soft as to require timbering; the lode is valued at ½ ton per fathom. The lode in the 40, driving west of engine-shaft, is getting more settled and regular, and produces ½ ton of ore per fathom. The returns of ore were kept up regularly during the past month, and the stopes are yielding well at present. The surface work is going on steadily, and the machinery in good condition. We estimate the raising for October at 60 tons.

LINARES.—Oct. 12: In the 175, driving east of Warne's engine-shaft, the ground is easy for driving, but the lode does not contain any ore. The 130, driving in the same direction, continues hard and poor. The 130, driving west of Warne's engine-shaft, has changed during the past week, and the ground is now very hard for driving. The lode in the 115, driving west of Warne's engine-shaft, continues large, and produces 1 ton per fathom. The 135, driving west of Peill's engine-shaft, has improved in value during the past week, and is worth 1 ton of ore per fathom. The 120, driving west of Peill's engine-shaft, contains a little ore, but not enough to value. The lode in the 135, driving east of Peill's engine-shaft, consists of decomposed granite and carbonate of lime. In the 120, driving east of Peill's engine-shaft, the men are still cross-cutting north; we expect to reach the lode soon. The 105, driving east of San Francisco shaft, is opening up good stopping ground, worth 3 tons per fathom. The lode in No. 240 winze, sinking below the 100, is producing 5 tons per fathom, and we expect to hold

to the 115 before next report.—Quintientos Mine: In the 100, driving east of Taylor's engine-shaft, the lode—valued at 1½ ton per fathom—has greatly improved, and the ground is easier for driving. In the 90, driving in the same direction, a splendid lode was met with a few days since; it is at present worth 2 tons per fathom. Alcazar's winze, sinking below the 50, and producing 1 ton of ore per fathom, has somewhat fallen off in value; it will be holed in a few days. Guillermo's winze, sinking below the 50, is communicated to the 100; the lode is worth 2 tons per fathom.—Majada Honda Mine: In the 45, driving east of Enriqueta's shaft, the lode is changeable, producing ½ ton per fathom—ground easy for driving. In the 70, driving east of San Francisco shaft, and the same level, driving west of cross-cut, on the north lode, nothing has been done during the past fortnight. BUENA VENTURA.—Oct. 12: In the 40, driving east of Cox's engine-shaft, the lode is well-defined and more productive than it was, its present value being 1 ton per fathom. The lode in the 50, driving west of Cox's engine-shaft, is large, and produces stones of ore. In the 30, driving east of Taylor's engine-shaft, there is a small compact lode containing a little ore, worth ½ ton per fathom. The 30, driving west of Taylor's engine-shaft, produces occasional stones of ore. In No. 4 winze, sinking below the 40, the ground is hard and little progress is being made. No. 5 winze sinking below the 10, and situate west of Taylor's engine-shaft, is going through good paying ground, producing 1 ton per fathom.

LA MILLON.—Oct. 12: The driving of the 40, west of San Felipe's shaft, is resumed, and the lode contains spots of lead. In the 40, driving east of Eusebio's winze, the value of the lode (at present worth 1 ton per fathom) has fallen off in the past week. The lode in the 130, driving east of Taylor's engine-shaft, has somewhat improved, and produces 1 ton of lead ore per fathom. In the same level, driving west of Taylor's engine-shaft, there is a large promising lode, worth ½ ton per fathom. The 85, driving west of San Adriano shaft, is communicated with the 70, east of San Victor's shaft; the lode produces ½ ton per fathom. In the 70, driving east of San Victor's shaft, by a communication with the last-named level 70 fms. of pitwork will be drawn to surface, and the water taken to Taylor's engine-shaft; the lode is worth ½ ton per fathom. In the 80, driving in the same direction, the lode has further improved, and is valued at 3 tons per fathom. In the 80 cross-cut, south of San Victor's shaft, a small vein was intersected, but the driving is continued to prove if the main lode is further south. The lode in the 70, driving west of San Victor's shaft, has become poor and small. In the 50, driving west of Judd's cross-cut, the lode is unproductive, and the granite is hard for driving through. San Felipe's shaft, sinking below the 50, has reached the depth for a 60 fms. level. The lode in Sagasta's winze, sinking below the 115, is large, and producing 1 ton per fathom, and good progress is being made.

CAPE COPPER.—Capt. Henwood and Lanksbury, Aug. 31: Ookiep: The 92, east of new shaft, still produces a little copper ore. The ground in the 92, north-east of No. 36 winze, is hard and sparry for driving, and shows a few spots of copper ore. The ground in the 92, north of No. 36 winze, is very congenial for the production of copper ore. The stope in the back of the 92, south of No. 36 winze, produces 9 tons of copper ore per fathom, and the stope north-east of No. 28 winze, is worth 4 tons of copper ore per fathom. The 80, south-east of new shaft, continues to produce a little copper ore, but not sufficient to value. The ground in the 80, south of new shaft, is spotted with copper ore throughout, but not enough to notice. We have commenced a cross-cut at this depth south of No. 36 winze in ground worth 5 tons of copper ore per fathom. In the early part of the month we started to drive in the 68, north-east of No. 19 winze; present end is worth 4 tons of copper ore per fathom. The 58, south-west of No. 40 winze, is unproductive. The 58, east of No. 40 winze, is suspended in consequence of the ground becoming unfavourable for copper ore. The stopes in the 80 and upper levels continue to look well, and produce fully their estimated quantities.

SPECTAKEL.—Capt. Henwood and Lanksbury, Aug. 25: Sinking in the incline below the 64 has been continued in consequence of its having attained the required depth for the 75, and the level has been started with a little water from incline towards the level now being driven from winze. The ground here contains some good stones of copper ore. There is no change to notice in the 75, north-west from winze. Ground still hard for driving. The stope in 54 maintains its value of 2½ tons of copper ore per fathom. The winze sinking below the intermediate level is now laying open some good stopping ground, and we expect shortly to hold this winze to the back of the stope beneath. The stope in bottom of 53 continues to produce 3½ tons of copper ore per fathom.

TRIAL MINES.—Capt. Henwood and Lanksbury, Aug. 31: The accumulation of ore in the old mine is gradually diminishing, and dressing will be carried on until it is exhausted. Since our last report the copper-bearing ground has apparently taken a counter direction. We have turned the direction of our level accordingly, and are now cross-cutting; value of present forebreast, 1 ton of copper ore per fathom. The plat in the 25 is now finished, and the men are put to cut clister plat, &c., preparatory to sinking below this depth. The ground in the bottom of trial shaft is still composed of quartz spotted with iron pyrites.

RETURNS.—For August, Ookiep, 1200 tons of 28 cent.; Spectakel, 145 tons of 37 cent.; Nababeep, 14 tons of 22 cent.—Bill of lading received: 610 tons of ore from Antonio Vincent.—Arrivals at Port Nolloth: The Glenudal, Gleam, and Tawe.—Arrivals at Swakop: The Anne Beal, Hollybush, Adams, and Gollconda.—Sales of ore: 103 tons at 12s. 3d. per unit, and 455 tons at 12s. 9d. per unit.

PESTARENA UNITED.—Sam. Gifford, Oct. 15: Val Topo: The intermediate under Zerolend, south on new lode, carries a little more flooken, but is otherwise without change. At No. 1 level south, on same lode, there is a good width of mineralised rock, with ore confined to small branches scattered through it to the extent of 10 tons of ½ oz. per ton per fathom. The rise behind the bend shows a very variable lode, changing in size and direction from day to day, and producing on an average 8 tons of 3 dwts. per fathom. No. 1 level going north on west lode has lately shown patches of quartz with a little pyrites, and possibly we may eventually get a little ore from there; at present it only reaches to a little saving work. The cross-cut west from Marim Rosso lode, continues in hard schist, but a vein of quartz has just come in, and is now being cut into; the result of this will be given in my next. In No. 2 level south on slide, it is seen that the vein of ore lately cut is making off east from slide, and leaving it entirely as a distinct lode. This we look upon as important, it being the first time anything of the kind has been seen in the mine, i.e., the making of an ore line under the slide. The yield of the branch at present is about 3 tons of 4 dwts. per ton. In the flat stope above, the ore seems to be widening again, and improving a little in yield. It gives about 12 tons of 7 dwts. per ton per fathom. The cross-cut west has again got into hard quartz. At the trial level from stope on flat lode at intermediate under No. 2, there is a little mixed quartz rock still, but no ore of value. The No. 3 level end on slide south is a little easier for driving, but without any other material change, whilst the end at same level on a western branch is opening out a good vein of ore, and likely farther to improve. The yield is now 2 tons of 8 dwts. per fathom. The trial level from winze under No. 4 on great quartz lode has a good width of ore still, but it narrows in going forth north; the produce at present being 10 tons of 7 dwts. The stopes continue as for some time, yielding a fair average of ore.

Pestarena: At the 33 north, on No. 1 lode, the rise shows a narrowing pipe of ore till near back, where there appears a tendency to lengthen again; it now yields 5 tons of 15 dwts. per ton. The driving from the bottom of the winze at the 33, on No. 5 lode, is in a more regular run of ore, with two good walls, and the yield is 8 tons of 6 dwts. It will take the month to finish driving, and put in penthouse to recommence sinking. At the 55, on No. 1, driving has been resumed by new men just come in; the end is without ore. The 80 end north, on No. 1, is also driving with a full pair of men; the ground being stiff and promising. At the 90 cross-cut the schist seems to be making a looser floor, and better progress is being obtained. At the 110 south driving has just been started in the south end, where there is a small branch of ore underlying flatly east, with a yield of 3 tons of 15 dwts. per ton per fathom. The branch of pyrites in the 110 south has become more regular, and is now extended to the back. The branch seems to diverge from the line before driven on, and I think it will be found to be No. 1 lode, taking up its old course before being joined by No. 2, which forced it in a strong easterly direction; yield 3 tons, at 1½ oz. per ton. At the 65 rise, on No. 5 lode, there is no change; the lode continues regular, with a good width of narrow string of pyrites, but the grade continues low; it produces 8 tons of 6 dwts. per fathom. The winze under the 65, on No. 5 lode, is beginning to improve, having now a small but good branch of ore on the footwall, with every appearance of becoming a fair sized lode; yield 2 tons of 1 oz. per ton. The 65 end south, on No. 2, has become poor again, with only a string of ore on the hanging wall. As this lode appears to join No. 1 some 15 metres further south driving on it will be suspended at the end of the month, in order to rise against the ore known to have made under the 46, just above the present end. The stopes, on the whole, are not yielding well at present, but there are signs of improvement in one or two of them. A little work is being done in the Gavone lode in the Morghen set, and also Pozzone. At the former the old adit is being cleared (which is said to have been driven for a great distance), with the object of seeing whether the lode is worthy of any serious trial; and at Pozzone the level is being restored, with a view of testing the incoming water preparatory to making estimates for pumping the old shafts dry.

AIR-COMPRESSING ENGINES.—Messrs. Walker Brothers, of the Pagefield Ironworks, Wigan, have this week been showing to the colliery proprietors of the neighbourhood a pair of their patent air-compressing engines—the largest that have yet been constructed in the district for colliery work. Messrs. Walker have for some time made a speciality of air-compressing engines, and have succeeded in introducing many improvements in their construction, the most important of these probably being their latest addition—a patent metallic inlet valve with friction pedestal and buffers, the opening and closing of the valve being by these rendered noiseless, even at a high velocity. The valve arrangement has, as is well known, been a serious difficulty with the makers of air-compressors, but Messrs. Walker's patent apparently overcomes this defect, and the experience of its working has been eminently satisfactory. The "dancing" or "flapping" action has been entirely done away with; the patent valves are perfectly free to open and shut without retarding the engine; they act in perfect sympathy with the movement of the pistons in the cylinders, and are ready to adapt themselves, without risk of breakage, to varying velocities. The engines under notice have steam cylinders 40 inches diameter, and air cylinders 42 inches diameter by 6 feet stroke. The steam cylinders have cut-off valves, which can be altered so as to regulate the supply of steam whilst the engines are in motion. The air cylinders are placed directly behind the steam cylinders, the piston rods of which pass through the stuffing boxes of the back covers and are coupled to the piston rods of the air cylinders, which are surrounded by water cisterns, the air being thus kept cool during compression. The fly-wheel for the engines will weigh about 25 tons. The engines are being made for the Linby Colliery Company, Nottingham, and will be used for the purpose of supplying air for underground hauling machinery. Messrs. Walker have also to provide the necessary boilers, air receivers, pipes, &c., in connection with the engines.

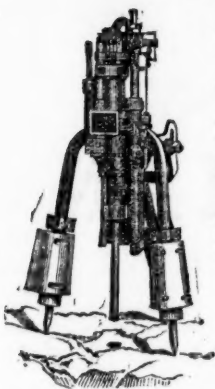
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In metalliferous mines the load transported in the corf varies from 9 cwt. to 20 cwt., and in coal mines from 4 to 5 cwt. in thin seams to 10 to 12 cwt. in thick seams, the weight of the corf averaging from 3 to 4 cwt. in thin seams, and from 4 to 5½ cwt. in thick seams, the total load from 7 cwt. to 9 cwt. in thin seams, and 14 cwt. to 18 cwt. in thick seams. At the surface in metalliferous districts where the inclination of the railway is very slight the load transported by one man in the wagon may reach as much as 3 tons.

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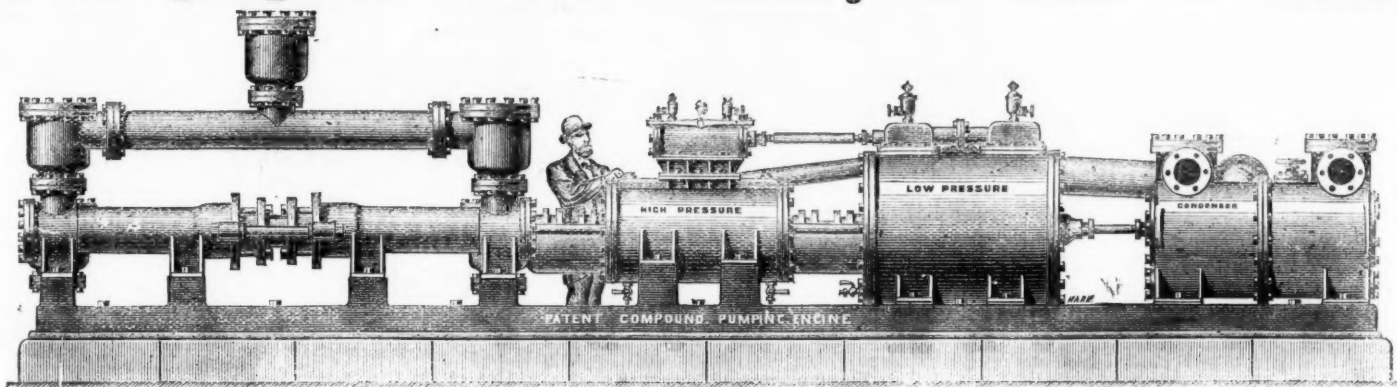
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The following first-class Testimonials will bear evidence as to the efficiency and economy of the Engine :—

TESTIMONIALS OF TANGYE'S COMPOUND PUMPING ENGINE.

21 Newcastle and Gateshead Water Company, Newcastle-on-Tyne, Oct. 20, 1879
36 x 10 x 48" COMPOUND CONDENSING STEAM PUMPING ENGINE.

Messrs. Tangye Brothers.

GENTLEMEN,—In reply to your enquiry as to the efficiency of the two pairs of Compound Condensing Engines recently erected by you for this company at our Gateshead Pumping Station, I have great pleasure in informing you that they have far surpassed my expectations, being capable of pumping 50 per cent. more water than the quantity contracted for; and by a series of experiments I find they work as economically as any other engine of the compound type, and will compare favourably with any other class of pumping engine. By the simplicity of their arrangement and superior workmanship they require very little attendance and repairs, and the pumps are quite noiseless. A short time ago I had them tried upon air by suddenly shutting off the column, and found they did not run away, thus showing the perfect controlling or governing power of the Floyd's Improved Steam-moved Reversing Valve. I will thank you to forward the other two as you have in hand for our Benwell Pumping Station.

(Signed)

Yours respectfully,
JOHN R. FORSTER, Engineer.

The Chesterfield and Boythorpe Colliery Company (Limited),
Registered Office, Boythorpe, near Chesterfield, Oct. 1, 1879.

21" 36 x 12" x 48" DOUBLE RAM COMPOUND CONDENSING STEAM PUMPING ENGINES
Messrs. Tangye Brothers. Supplied in January, 1878.

GENTLEMEN,—Referring to the above, which we have now had working continuously night and day for the last 12 months, we are glad to say that it is giving us every satisfaction. It is fixed about 400 feet below the surface, the steam being taken down to it at pressure of 45 lbs. per square inch. We can work the pump without any difficulty at 28 strokes per minute—224 ft. piston speed. The pumping power is enormous. The vacuum in the condenser being from 11½ to 13 lbs. The pump is easily started, and works well and regularly. The amount of steam taken being much less than we anticipated. We consider the economy in working very satisfactory indeed. The desire for power and economy at the present day will certainly bring this pump into great requisition.

(Signed)

M. STRAW, Manager

SIZES AND PARTICULARS.

Diameter of High-pressure Cylinder.....In.	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14
Ditto of Low-pressure Cylinder	14	14	14	18	18	18	18	21	21	21	21	24	24	24	24
Ditto of Water Cylinder	4	5	6	5	6	7	8	6	7	8	10	7	8	10	12
Length of stroke	24	24	24	24	24	24	24	24	24	24	24	36	36	36	36
Gallons per hour approximate	3900	6100	8800	6100	8800	12,000	15,650	8,800	12,000	15,650	24,450	12,000	15,650	24,450	35,225
Height in feet water can be raised with 40 lbs. pressure per square inch in } Non-condensing...	360	330	160	360	250	184	140	360	264	202	130	360	275	175	122
Ditto ditto ditto—with Holman's Condenser...	480	307	213	480	333	215	187	480	352	269	173	480	367	234	162
Ditto ditto ditto—with Air-pump Condenser...	600	384	267	600	417	306	335	600	440	337	216	600	459	203	203

CONTINUED.

Diameter of High-pressure Cylinder	16	16	16	16	18	18	18	21	21	21	24	24	24	30	30
Ditto of Low-pressure Cylinder	28	28	28	32	32	32	32	36	36	36	42	42	42	52	52
Ditto of Water Cylinder	8	10	12	14	8	10	12	14	10	12	14	10	12	14	14
Length of stroke	36	36	36	36	48	48	48	48	48	48	48	48	48	48	48
Gallons per hour approximate	15,650	24,450	35,225	47,950	13,650	24,450	35,225	47,950	24,450	35,225	47,950	24,450	35,225	47,950	47,950
Height in feet water can be raised with 40 lbs. pressure per square inch in } Non-condensing...	360	230	160	118	456	292	202	149	397	276	202	518	360	264	562
Ditto ditto ditto—with Holman's Condenser...	480	307	213	154	603	389	269	198	528	363	269	691	480	352	750
Ditto ditto ditto—with Air-pump Condenser...	600	384	267	191	750	486	337	248	660	450	337	864	600	440	937

PRICES GIVEN ON RECEIPT OF REQUIREMENTS.

Any number of these Engines can be placed side by side, to work in conjunction or separately as desired, thereby multiplying the work one Pump to any extent.

NORTHERN DEPOT:—TANGYE BROTHERS, ST. NICHOLAS BUILDINGS NEWCASTLE-ON-TYNE.

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Gold Medal, Silver Medal, and Honourable Mention awarded at the Paris Exhibition, in competition with all the World,
FOR MY LATEST PATENTED STONE BREAKERS AND ORE CRUSHERS.

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FROM THE
MINING INSTITUTE
OF CORNWALL.

H. R. MARSDEN,

ORIGINAL PATENTEE AND SOLE MAKER OF BLAKE-MARSDEN

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BONE MILLS
MORTAR MILLS
&c. &c.

Improved Patent Stone Breakers & Ore Crushers.

New Patent Reversible Jaws,
in Sections with Patent
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TOGGLES.

OVER 2750 IN USE.

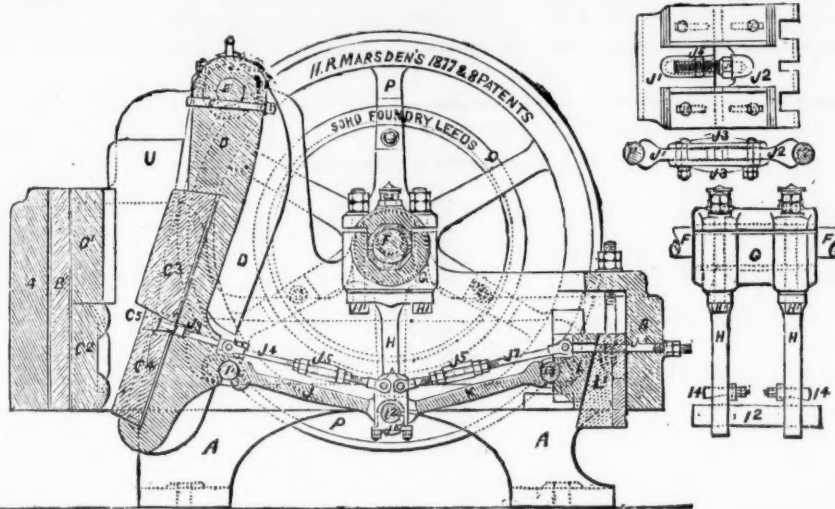
NEW PATENT WROUGHT-IRON CONNECTING
ROD.

New Patent Draw-back
Motion.

NEW PATENT STEEL TOGGLE BEARINGS.

60

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many of the mines under our management, and are
pleased to be able to state that they have in all cases
given the greatest satisfaction.

We are, yours faithfully,
JOHN TAYLOR AND SONS,
H. R. Marsden, Esq.,
Soho Foundry, Meadow-lane, Leeds.

St. John del Rey Mining Company (Limited).
A SAVING OF FIFTY-FIVE HANDS BY THE USE OF
ONE MEDIUM-SIZED MACHINE.

BLAKE'S STONE BREAKER.—Statement made by the Managing Director of the St. John del Rey Mining Company, Mr. John Hockin, with regard to six months' practical working of Blake's Stone Breaker, affording facility for judging of the relative economy of machine and hand labour in this kind of work, and also of the cost of getting the Stone Breaker to work in difficult places. The price paid to Mr. Marsden for the machine referred to by Mr. Hockin was £180, and adding to this the cost of engine carriage, and fixing, the aggregate cost to the company of the Breaker in working order was £500. By this outlay the company is enabled to dispense with the labour of 55 people, the value of which is £800 per annum. The cost of working the machine could not be more than the wages of about five men (the machine requires but one man to feed it, so that the rest would be for engineer, fuel, oil, &c.), and allowing for interest on outlay and for renewal when necessary, the saving must be enormous.—Mining Journal.

ALL BEARINGS are renewable, and made of H.R.M.'s Patent Compound ANTIFRICTION METAL.

CATALOGUES, TESTIMONIALS, &c.

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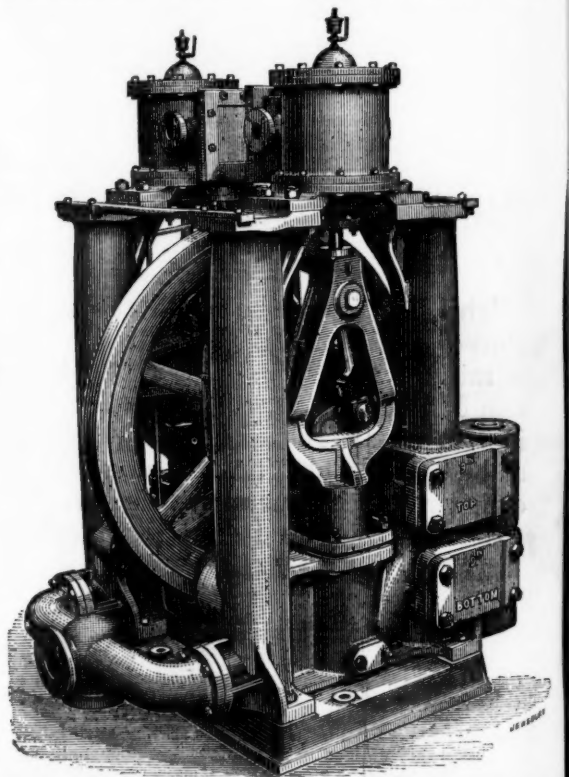
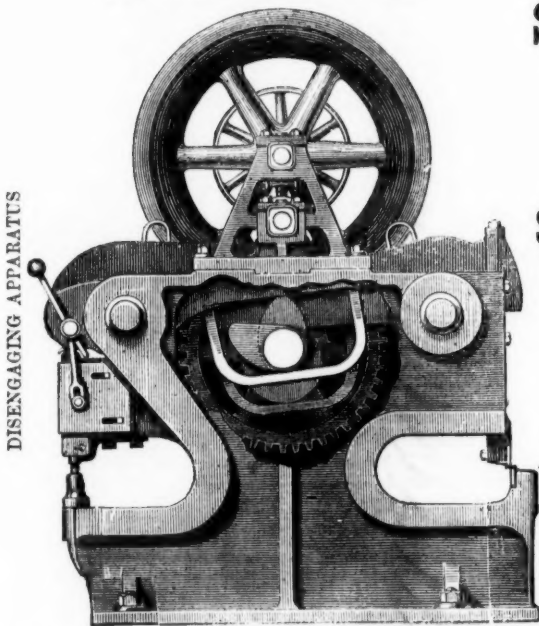
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